

Industry Leaders Preview 1958 With Considerable Hope

What's ahead for the agricultural chemical trade in 1958? That is a question no one can answer with certainty, but at the same time, observations of leaders in the industry can shed a lot of light on the probabilities of next year's business.

It is in this way that Croplife offers a service to the trade at year's end. This special outlook issue contains comments and observations by a representative cross-section of men prominent in the industry.

Of particular significance is their lack of gloom in regard to 1958. Instead, expressions of sensible optimism pervade the comments which follow here and those contained in the articles inside. When the time comes to refer to 1958 as the "old year," we trust that the optimism expressed here will be justified.

The way prospects line up for the pesticide and fertilizer industries follows:

Outlook for PESTICIDES

Greater Investment Return Seen as Main Need for '58

By Jack V. Vernon

President, Niagara Chemical Div.,
Food Machinery & Chemical Corp.,
Middleport, N.Y.

"As we come to the close of the 1957 pesticide year, the situation is that business for the most part was about on par, or slightly ahead of 1956. Certain areas of the country suffered from drouth, which had its effect on both the insecticide and fungicide phases of the business. There were no serious outbreaks of insect infestations in any part

of the country which required any special emphasis or action on the part of industry members. In other words, problems relating to insect and disease control were adequately handled by industry from the standpoint of supply and distribution.

"I believe the general consensus in the pesticide industry is that return on investment is still far below good business practice, and that there was a very slight improvement noticed during 1957. The trend for 1958 is that business will be about on the same level as 1957, with a tendency slightly upward, though general economic conditions may alter this somewhat. However, the general business barometer is not always applicable to our industry as much as are insect infestations, weather conditions, etc. Therefore, with normal rainfall in all areas I foresee that conditions in our industry will improve slightly during 1958.

"Due to higher costs of labor, transportation, raw materials, packages, etc., it is expected that slightly higher prices will prevail because there is no

(Continued on page 4)

Outlook for FERTILIZERS

Supply Problem Seen for Nitrogen Solutions

By E. E. Crouse

Executive vice president, U.S. Liquid
Fertilizer Corp., Indianapolis, Ind., past
president, National Nitrogen Solutions
Assn.

"Will they have it?" "Can we get it?" "How soon?" "These are the foremost thoughts in customers' minds today.

There is some concern on behalf of the direct-application people if they can get enough nitrogen solution

(Continued on page 17)

USDA Marks 1957 Big Research Year For Pest Controls

WASHINGTON — Encouraging gains were made during 1957 in research to protect the nation's crops and livestock from insects and other pests, Ezra Taft Benson, Secretary of Agriculture, reports.

Specialists of the USDA agricultural research service, cooperating with state and foreign agencies, are developing more effective means of safeguarding important crops against diseases, insects, and weeds, and are finding new chemical weapons to combat insect pests of farm animals, the report says.

The \$200 million U.S. rice crop was threatened when "hoja blanca," or "white-leaf" disease, was found in a rice field near Belle Glade, Fla. Approximately 4,000 varieties and strains of rice from USDA's world rice collection have been grown in infested areas in Cuba and Venezuela in an effort to find resistant plants. Some 285 lines of short- and medium-grain rice have shown appreciable resistance to the disease.

Although none of the resistant lines so far discovered is equal in commercial acceptability to varieties now grown, some may serve in an emergency. They will be used chiefly, however, as breeding material for crossing with U.S. commercial varieties in an effort to produce new disease-resistant, high-yielding varieties.

In research to improve disease resistance in forage crops, a new variety of rescue-grass — Lamont —

(Continued on page 21)

Fertilizer Use Up in Tons and Nutrients in '57

USDA Preliminary Report Says Gain In Nutrients 4.1%

WASHINGTON — Fertilizer consumption in the U.S. and territories during the fiscal year ended last June 30 showed a 1.3% gain over that during the previous fiscal year, according to the preliminary consumption report released by the U.S. Department of Agriculture.

Consumption in 1956-57 amounted to 22,485,000 tons, an increase of 292,000 tons over the 1955-56 use.

Consumption of mixed fertilizers totaled 14,575,000 tons—a decrease of 201,000 tons (1.4%). Use of materials for direct application totaled 7,910,000 tons—an increase of 493,000 tons (6.6%).

Included in the materials are 6,956,000 tons of products containing one or more of the primary plant nutrients (N, P₂O₅, K₂O), 929,000 tons of secondary and trace nutrient materials and 25,000 tons not classified. The use of materials containing primary nutrients increased in the amount of 328,000 tons (4.9%) and secondary and trace nutrient materials by 139,000 tons (17.6%) over their respective use in 1955-56.

The preliminary report was prepared by Walter Scholl, Florence B. Crammatte and Marion M. Davis, Fertilizer Investigations Research Branch, Soil and Water Conservation Research Division, Agricultural Research Service, USDA, Beltsville, Md.

Although the national consumption of fertilizers showed an increase in 1956-57, compared with 1955-56, there were decreases in 19 of the 51 tabulated areas. Most of the decrease in total fertilizer consumption was accounted for by 9 of the 13 states com-

(Continued on page 20)

Chipman Expanding At Portland Plant

PORTLAND, ORE. — Chipman Chemical Co. has under way a \$170,000 alteration and expansion program at its Portland plant. The project, involving construction of two additions and extensive equipment installation, is to improve production rate and efficiency of the plant, according to Joe Durst, office manager.

New equipment includes a 750 gallon glass-lined weigh tank with steam jacket, a 24-D acid drier, a steam stripper column to eliminate possible pollution, a 39 foot dichlorophenol steam stripping tower, an effluent clarifier, an 800 gallon surge tank, an emulsion breaker tank, a 2,000 gallon caustic scrubber tank and a catalytic combustion unit for exhaust air from process vessels.

CROPLIFE'S OUTLOOK ISSUE for 1958

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CHAOTIC YEAR AHEAD . . .

Transportation Rates Loom Large as Chemical Industry Studies '58 Profit Picture

By Eugene Landis

Director of Transportation

International Minerals & Chemical Corp.

Chicago, Ill.

The fertilizer industry will face a chaotic transportation cost picture during 1958. At the present time, the railroads are contemplating an increase of 2 or 3%. They are scheduled to ask the Interstate Commerce Commission for a 20¢ per net ton increase on fertilizer and fertilizer materials, including potash. They are also asking for an increase of 10¢ per net ton on phosphate rock.

However, the railroads are not united in their thinking as to the freight classifications on which they should ask increases. The southern railroads are totally opposed to increasing freight rates on any of the commodities used by the fertilizer industry. It is their feeling that this would only cause the material to be diverted to trucks.

For instance, on Dec. 23, 1957 there was to be a substantial reduction in rail freight rates in southern territory (south of the Ohio River and east of the Mississippi River). In other words, the transportation cost in the southern territory will be less in 1958 than it has been in the last few years. The picture in the other territories will be somewhat different. There is discussion that in the southwestern territory (west of the Mississippi River and south of the Missouri River and east of the Rocky Mountains) the railroads are thinking of reducing rates on fertilizer and fertilizer materials. In other areas the railroads are adamant about levying an additional 20¢ a net ton increase.

As in all industries the transportation carriers, rail and truck, are facing greater costs. Naturally, they are trying to cover these expenses by increasing their prices. The railroads have to a certain extent stretched their freight rates to such a point that they are like rubber bands that will break. It is a probability that next year more material will move by truck than any other year because any rail rate increase will cause diversion of traffic. A great number of companies are seriously looking into by-passing common carrier transportation in favor of their own vehicles.

The private carriage has an added advantage of getting into the picture because a 3% federal transportation tax is not paid. With the 3% start, private carriage can be quite an asset to the fertilizer manufacturer. It is therefore imperative that the railroads and the common motor carriers look very seriously into their pricing picture before they increase freight rates for the fertilizer industry.

The rise in rail freight rates as well as trucking rates has caused quite a number of companies to give further thought to water transportation. More companies are barging fertilizer materials than ever before. The rise in rail freight has caused a margin that makes water transportation attractive. It must be stated that water transportation costs also rise percentage-wise, but since the water rates are lower, the amount of increase is not as great as that of the rails.

The railroads in their new petition, just filed, have gone on record that they will not increase any freight that has been established to meet water transportation. This leaves the transportation problem on those shippers and receivers who are not located in a position to be competitive with several modes of transportation.

Probably now more than ever the question of plant location in the fertilizer industry has become a very important factor. Without this element of competition, the poorly

located fertilizer plant is at the mercy of the more strategically located plants. No doubt many companies will canvass their operations and determine whether manufacturing can be continued in view of rising transportation costs.

Car Supply

In view of the decline in the amount of tonnage now being offered to the railroads there is no reason why there should be freight car shortages in the coming year. The railroads have reduced their car building program because of lack of funds, and there appears on the horizon much that would indicate serious car shortages in the years to come.

This sort of picture can lead to trouble if freight cars are not built on a stabilized program. The worn out cars must be replaced, even though their replacement costs are considerably higher than the equipment being retired.

The railroads have come forth with a plan suggested by James M. Symes, president of the Pennsylvania Railroad. His plan would be to have a government agency established to buy freight cars, locomotives and passenger cars from the various railway supply companies and lease them to the railroads at nominal fees. This plan is quite controversial, and has been the subject of attack from many sources.

At its face value it would not require capital funds on behalf of the railroads, relieving them of a very difficult situation. On the other hand, there are many that consider this socialistic and one step ahead of government ownership of the railroads. This involved problem should be resolved sometime in the next 12 months.

Beside the fact of cost, the railroads have also lost a great deal of business because of their service. The lack of adequate motive power requiring added days in transit has caused quite a number of shippers to find another mode of transportation for their products. The fertilizer industry has leaned a great deal toward trucking because of flexibility and control. The result is that the railroads have suffered a great deal because of certain operating economics that have been forcing diversion. Some companies have established freight warehousing for their fertilizer products and barge their materials to these points making them available for quick deliveries by truck. Unless the railroads find a means of increasing their service abilities they can expect to receive a lower amount of fertilizer tonnage and further aggravate their own problem.

The coming year will be a very competitive one for both industries, fertilizer and transportation.

Basil M. Surgent Named To New IMC Post

CHICAGO—Basil M. Surgent has been named an agricultural sales representative in the potash division of International Minerals & Chemical Corp.

Mr. Surgent, a 1956 graduate of Randolph-Macon college, will cover New York, New Jersey, Pennsylvania, Maryland and Delaware. He succeeds Robert A. Heuerman, who will be the company's potash sales representative in Quebec province, the New England states, Virginia, Baltimore and New York City.

NEW PLANT

PENDLETON, ORE.—Hermiston-Pendleton Grain Growers office employees moved into their new plant here recently. In addition to the office proper, the new plant includes a display room. It is located at the corner of Locust Street and 1st Place. Gayle Marks, branch manager, is in charge of the location.

Fertilizer Use Up 5% With End of Midwest Drouth

By Richard E. Bennett

President, Farm Fertilizers, Inc.
Omaha, Nebraska

OMAHA, NEB.—In talking with college leaders, industry leaders and farm leaders over this Middle West area, many of them emphasize that fertilizer use is dependent upon the attitude of the farmer. They seem to all be in agreement that the farmer are more and more considering the use of adequate fertilizer as being a necessity for profitable farm operation.

Parts of the Middle West area have suffered during the past several years from a very severe drouth. Fertilizer use in this area by reason of this drouth, has been down. The fact that these areas, which have been so badly hit by drouth, now have plentiful moisture, cannot help but have good effect on the attitude of farmers toward fertilizer use for the spring of 1958.

While the drouth has been broken in our area, parts of this area are now suffering by reason of too much moisture. The harvesting of various crops this fall has been very slow because of this excess moisture. Many of these crops have such an unusually high moisture content, that the growers have not been able to harvest them, and when harvested have not been able to sell these crops without being penalized because of this excessive moisture content. In spite of these disadvantages, it is much more encouraging for everyone concerned to have an excess of moisture rather than a deficiency of moisture.

If weather conditions are favorable during the spring planting season, it is our opinion that more fertilizer will be used over the Middle West area as a whole, than was used last year. Too much moisture in the spring could mean that no more fertilizer would be used during the 1958 season than was used during the 1957 season.

Inasmuch as the attitude of the farmer is now more favorable toward increased fertilizer use than formerly and in as much as none of this Middle West area is now suffering from drouth, we predict that there should be all the way from as much fertilizer used during the spring of 1958 as in the spring of 1957, to an increase of 5 to 10% this year compared to the previous year.

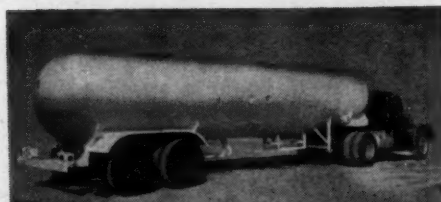
Another factor entering into fertilizer use in the Middle West, is the increasing number of acres irrigated from wells. In some of this area this increased acreage is quite substantial. With irrigation, increased fertilizer use always comes.

Seed Group Elects

PORTLAND, ORE.—E. F. Jernstedt, Carlton, was elected Oregon Seed Growers League president at the annual meeting here, replacing Phil Farrell, Madras. R. W. Schaad, LaGrande, was named vice president and Rex Warren, Oregon State College farm crops specialist was re-elected secretary-treasurer. Jess Lewis, Astoria, was elected to the board of directors, replacing Afton Zundel, formerly of Astoria, who recently joined the Lincoln County extension service staff at Newport. Roy Stevenson, Madras, was elected to replace Mr. Farrell on the board of directors as representative of Central Oregon. League action this year included a recommendation that Oregon State College and the State Department of Agriculture investigate need for measures to prevent introduction of the spotted alfalfa aphid.

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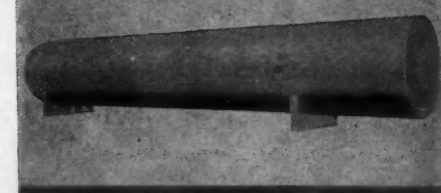
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PESTICIDE OUTLOOK

(Continued from page 1)

room for these added costs to be absorbed. I do not believe that these added costs will be significant. There will be no appreciable effect on the economic use of pesticides.

"New uses are increasing for pesticides that broaden the over-all market, such as in the field of soil insect control, forage crops, wider use of herbicides and household pesticides. These new uses offer opportunities for members of this industry to be of greater service to agriculture, and at the same time to reap some benefits for helping to develop these new uses."

Inventory, Other Factors Favor Good Year in 1958

By George R. Ferguson

President, Geigy Agricultural Chemicals Div., Geigy Chemical Corp., Ardsley, N.Y.

"To forecast the business outlook for the following year is always difficult because of so many variables including weather conditions and various types of pest infestations, as well as economic and political factors that affect the purchasing power of the farmer. Nevertheless, we are quite optimistic regarding both the long range trend and our own prospects for 1958. The farmer, the food industry and the chemical industry are all learning to live with the Miller Bill and order is gradually coming out of chaos.

"Farmers are becoming more and more highly skilled in the use of our chemicals and many technical services are available to them.

"Trade reports indicate relatively satisfactory inventory conditions going into the new year and because of the trend toward specialized uses of our chemicals as well as the sporadic development of resistance problems, there will probably be an increased trend toward cash sales and more attention paid to watching inventories during the season.

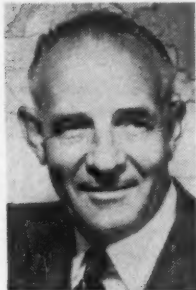
"With normal weather and crop growing conditions, we look forward to a continued healthy increase in our own business as well as continued market expansion for the industry as a whole."

Better Distribution Setup To Help Increase Sales

By Arthur W. Mohr

President, California Spray-Chemical Corp., Richmond, California

"Three important phases of the industry, production, sales, and market expansion look this way to us for 1958:



A. W. Mohr

while we are overproduced on most commodities, we are closer to balance than at any time during the past five years.

"Sales—We are optimistic about some sales gain largely because of increased marketing organization and distribution facilities. I am of course speaking only about our company.

"Market Expansion—While we look for some market expansion in specific fields where new chemicals will do more and better things than were possible previously, we are doubtful about the general over-all expansion of the market. The reason is that we

expect crop controls to be continued with the possibility of further cuts in some crops as the surpluses still plague agriculture."

More Growers Will Use Pesticides Next Season

By P. J. Reno

Hercules Powder Co., Wilmington, Del.

"Chemicals will again play an important role in 1958 in insuring the maintenance of a productive agriculture for America.

A productive and prosperous agriculture is a prime necessity for the United States, which continues to be confronted with the need of serving as a major supplier of food and fiber for the free world.

"More farmers will use agricultural chemicals in 1958. The continued spread of information on the benefits to be achieved through the proper use of chemicals in agriculture will result in more farmers taking advantage of this added tool for efficient agricultural production.

"However, we at Hercules would not be disappointed if individual farmers were to use less chemicals. We would like to see more effective use of these chemicals rather than to see an increase in the amount.

"In insecticides, for instance, too many farmers have been buying too much insecticide. Smaller amounts of insecticides, used properly, would have given them results equally as good or better than those which they obtained.

"Farmers are entitled to better information on the most economical and effective use of farm chemicals. Along with other segments of the agricultural industry, the chemical industry must share in the responsibility for seeing that this information is available.

"We don't believe that farmers are too concerned about the price of materials. Too much has been said about the per pound price when the emphasis should be placed on the price of doing an effective job, regardless of the unit price for certain materials.

"Farmers are aware of the benefits to be obtained from proper use of chemicals. With proper help they will increase the over-all demand for all the chemicals which play such an important role in American agriculture."

New Agricultural Pests To Create Demand in '58

By Jack Taylor

Taylor Chemical Co., Aberdeen, N.C.

"I believe that 1958 should be a good year for use of pesticides. There are new pests covering a wider range of crops which should increase demand for our products per acre of cropland. The soil bank may affect this to some extent, but over-all I look for a larger demand.

"Production facilities are ample and I don't look for any shortages. In fact, too much production is helping to cause our worst headache—prices. Our pesticide industry is almost mentally ill in the pricing department. Our bankers tell me I'm crazy as a bat for taking the risks for the small profit (or loss).

"I long for the day when our industry learns the lesson 'that a cut price does not make an extra bug'."



P. J. Reno

Efforts Exerted for Sales In New Areas Will Pay Off

By John F. Kirk

Vice President, Velsicol Chemical Corp., Chicago, Ill.

"In the agricultural chemicals field, too much time and effort have been expended in competing for existing business. Half of this effort devoted to developing new users of our products would expand industry sales and improve our profit picture.

"Industry research laboratories have been prolific in developing new and improved agricultural chemicals. Our technical personnel and the federal and state experiment stations have shown that, properly applied, these chemicals will profitably increase the yield and quality of our food, forage and forest crops.

"A relatively few farmers are taking full advantage of these chemicals. We, as an industry, have been concentrating too much of our selling effort on existing users. With several sellers fighting over each order, the usual result is low price selling, resulting in volume but without profit. If these sellers would each seek out a non-user and show him that by using our chemicals he could improve his yield and efficiency, and make a larger net profit on his crops, more volume would result...and without price cutting.

"If each of us will resolve to spend more of our time and efforts next year in educational and promotional selling, 1958 can be a very prosperous year."

Better Local and Regional Distribution Seen as Boon

By G. D. Baerman

Manager, Insecticide Products Dept., Olin Mathieson Chemical Corp., Baltimore, Md.

"In our opinion, 1958 should be an excellent all-round season for the pesticide industry. The general ending of drought



G. D. Baerman

conditions in the Midwest and Southwest provides an opportunity for increased sales in those areas, and new products, plus broader acceptance of all pesticides at the lower level should tend to increase sales.

"Hard selling and more careful controls have tended to reduce inventories at all levels, and this, of course, will have a stabilizing influence on prices. It appears that margins should hold so that all factors in the distribution chain may expect reasonable returns on their operations, while still providing protection for the farmer at an economical level.

"The trend toward decentralization of distribution and the consequent strengthening of the position of local and regional formulators may be expected to continue, and we anticipate that 1958 should see a long step toward the consolidation of the position of these important factors in our industry which should definitely have a stabilizing influence.

"Results of research by the large national concerns will be more apparent, and we look for increased strides in hitherto relatively unexploited fields. Only recently has the need for soil fungicides such as 'Terraclor,' for instance, become apparent. Such products can be expected to contribute substantially to im-

proved yield and quality of many crops.

"All in all, we look forward to a year of improved conditions in all respects."

Pesticide Research Makes Trade Ready for Future

By Dr. H. Douglas Tate

Naugatuck Chemical Div., U.S. Rubber Co., Naugatuck, Conn.

Sales of agricultural chemicals have continued their swing upward in recent years, and this trend should continue in 1958.

The basic reasons for these gains in agricultural chemical sales are the shift to complete farm mechanization underway during the past decade, and strong emphasis being placed on efficiency in farm production. The overriding factors spurring both preceding trends are this country's steady increase in population and shrinkage in farm families. Agricultural chemicals are a form of mechanization because they replace extensive manual labor, and they are undoubtedly one important key to efficient use of farm land.

There were many new indications, during 1957, of the value farmers place in agricultural chemicals. Pesticide uses were expanded, herbicides were used more broadly on large-acreage crops such as soybeans, peanuts, potatoes and forage crops, and there were increasing demands for such things as soil insecticides, soil fungicides, nematocides and defoliants.

There was more evidence, too, of the revolution in farm practices being caused by such relatively new chemicals as growth regulants. During 1957 in many of the country's tobacco fields, the field hand was largely replaced by a growth regulating chemical sprayed on at suckering time.

The agricultural chemical industry is prepared to grow with the rising demand for its products. It is increasing its research staffs and adding to its production capacity.

In 1958 the industry doesn't foresee broad price increases. It is possible, however, that some price adjustments will be made where increasing manufacturing costs have gone beyond the point where they can be absorbed.

Fruits, Vegetables Offer Good Pest Control Market

By Carlos Kampmeier

Rohm & Haas Co., Philadelphia, Pa.

"The year 1958 should see a modest increase in sales of pesticides for fruits and vegetables, barring abnormal weather conditions such as last year's disastrous drought in the Middle Atlantic States.

"Supplies of all major pesticides should be adequate. Some of the newer products, such as Rohm & Haas' new Kelthane miticide, will be substantially lower in price. Constantly rising freight, labor, and packaging costs will force increases in prices of many of the older pesticides.

"Growers of fruits and vegetables must continue their efforts to increase yields and improve quality. This will result in increasing grower acceptance of the new and milder organic fungicides and insecticides."



H. D. Tate



C. Kampmeier



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World Situation Involved In Potash Supply-Demand Picture for 1958 Season

By Dean R. Gidney

Vice President, U.S. Potash Co.
Division, United States Borax & Chemical Corp.
New York

There has been considerable recent publicity concerning overproduction in the potash industry and there is no doubt that such a situation currently exists. However, a supply-demand position for an individual product is very like Mr. Micawber's explanation of a happy life—annual income twenty pounds, annual expenses nineteen pounds nineteen shillings and sixpence—result, happiness; annual expenses twenty pounds one

shilling—result, misery. A slight surplus of supply over demand produces a buyer's market which exists today, but which is subject to change without notice.

An analysis of the potash supply picture must take into account both the world situation and the domestic situation. Potash is produced in many countries and consumed almost universally—though consumption is far below recommended amounts in vir-



Dean R. Gidney

tually every country including the United States.

The United States is at present the largest producer of potash, followed by West Germany, France, and East Germany in that order. The U.S.S.R. is believed to be next, followed by Spain and Israel. Italy is in the process of the development of a potash industry. Any appraisal of the world supply future must contain a certain amount of guesswork because of the lack of adequate data from behind the Iron Curtain. However, best estimates would indicate that world production and consumption were in virtual balance at about 8,800,000 short tons of K_2O for the fertilizer year 1956-57. Production and consumption in the United States for the same period were also close to balance at around 2,200,000 short tons of K_2O . Exports from this country were slightly higher than imports into the U.S.

Despite this seeming balance, we recognize that surplus productive capacity exists as most of the domestic producers have increased their productive capacity to meet the expected normal increase in demand as well as to be ready for greater increases which may be brought about by education and the desire for most efficient production of farm products. Two American companies are now shaft sinking in the vast new potash fields in Saskatchewan, and it is probable that the first of these companies will be producing in Canada by the end of 1958. The initial contributions from the new reserve will no doubt be small but eventually this area may prove to be the largest producer of potash in the world.

The potash industry bases its optimism for the future on the following factors: 1) Increase in population resulting in the need for greater production of food and fiber on fewer acres. 2) Development of relatively untapped world markets such as India and Latin America. 3) Education as to the benefits of greater use of potash. The need for such education is indicated by the fact that even in the United States consumption is far below the optimum amounts recommended by the Department of Agriculture and the state colleges.

Recognition of this need is evidenced by the support given by the majority of the domestic industry to the American Potash Institute, a scientific institute dedicated to education and research and to the promotion of efficient and profitable use of potash in agriculture. One potential major new market lies in forestry crops and increased effort will be devoted to education and promotion in this field.

We, therefore, now have a situation in our industry which, according to Mr. Micawber's definition, can result in "happiness" if you are a consumer or "misery" if you are a producer.

We also have increases in productive capacity in the Carlsbad field and among certain of the European producers, and the potential of the great Canadian field. On the other hand, we have dynamic factors pushing toward increases in consumption and the ever-present possibility of strikes or international conflict which could rapidly swing the pendulum back from "a little too much" to "a little too little."

More Farmer Use of Credit in 1958 Seen

EAST LANSING, MICH.—Farmers are expected to use more credit during 1958 than they did in 1957, but the prospect is that they'll have to pay more for it, according to Elton Hill, agricultural economist at Michigan State University.

Mr. Hill notes that farmer demand for credit has been increasing steadily, and it will undoubtedly continue. Capital, he points out, is playing a more important part in farming, particularly among younger farmers who are modernizing or expanding.

The outlook for the supply of credit was said to be spotty. Some country bankers report that the credit situation will be improved, Mr. Hill said, while others say it will be about the same.

Dealer and merchant credit made up half the short-term and intermediate loans to Michigan farmers last year, and this type of credit is expected to stay fairly easy during 1958.

Short-term, farm operating loans will probably carry interest rates of 6 to 7% in 1958, Mr. Hill said, with more of the smaller loans at the 7% rate than was the case in 1957.

Spencer Names Two New Technical Service Men

KANSAS CITY—Spencer Chemical Co. has announced the assignment of Paul Castagno and Larry Lortscher as technical service representatives for agricultural chemicals. Mr. Castagno will work with fertilizer mixers in the Midwest, while Mr. Lortscher will service Northern national accounts, working out of Columbus, Ohio.

Mr. Castagno previously worked for Spencer as a laboratory analyst at its Jayhawk Works, after graduating from Pittsburg State College at Pittsburg, Kansas with a B.S. degree in chemistry. After discharge from the U.S. Air Force, he continued his education at Kansas State College and the University of Kansas City. Before joining Spencer Sept. 1, 1957, he was employed by the Cooperative Farm Chemicals Assn. and Gustin-Bacon Manufacturing Co. With his family he will make his home in Merriam, Kansas.

Mr. Lortscher served with the U.S. Army prior to entering the Massachusetts Institute of Technology where he received a B.S. in chemical engineering in 1951. After receiving his degree he worked five years with the Battelle Memorial Institute in Columbus, Ohio and has done extensive work in fertilizer research. A native of Kansas City, Mr. Lortscher and his family will now make their home in Columbus, Ohio.

CALIFORNIA PUBLICATIONS

BERKELEY, CAL. — Three new publications in the field of agricultural chemicals have been issued by the University of California. Available for free distribution are the following booklets: "Green Manures and Crop Residues in Managing Rice Soils," by William A. Williams, Dwight C. Finckle and Milton D. Miller, leaflet 90; "U. C. Type Soil Mixes for Container Grown Plants," by O. A. Matkin and Philip A. Chandler, leaflet 89; and "Fumigate Soil Before Replanting Citrus—for the Control of the Citrus Nematode," by R. C. Baines, F. J. Foote, and J. P. Martin, leaflet 91.

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SOUTHERN NITROGEN CO.

Spring Ad Campaign

Oklahoma Dealers Get Advice On Credit, Service Programs

STILLWATER, OKLA. — Three awards for work in behalf of greater use of commercial fertilizers on Oklahoma farms were presented during the third annual Oklahoma Fertilizer Dealers' Conference, held recently at the Student Union on the Oklahoma State University campus.

A plaque was presented to Ronald Nelson, 12, 4-H club member of Carter, Garfield County, Oklahoma, for his wheat fertilizer demonstration conducted during 1957 on his home farm. He was the top winner among 4-H'ers in the demonstration program sponsored by the Oklahoma agricultural extension service and the Oklahoma Plant Food Educational Society.

A plaque also was presented, by the Oklahoma Plant Food Educational Society, to the Welch, Okla. FFA chapter.

The Myrl Gray Memorial Award was presented, for the first time, and it went to Alton Perry, Garvin County extension agent at Pauls Valley, Okla. The award, a plaque, was named for the late Myrl Gray, former Payne County extension agent and first president of the Oklahoma Plant Food Educational Society. As president, Mr. Gray had advocated the plan of an annual award by the society to the extension agent judged to have done most for wise use of the soil, including application of fertilizers where needed, during the year.

Highlights of comments by speakers during the conference follows.

Raymond Bigger, Farmers Grain and Seed Co., Enid, Okla.:

The most important single item in "living with credit" is making sure that the customer understands the firm's credit policies. The open account, ordinarily payable in about 30 days, is less likely to become longer term credit if the dealer takes plenty of time to explain to the customer just what is expected when the credit is granted.

The dealer can evaluate the prospective creditor's credit standing by getting the answers to questions such as: who is the customer, where is he located, and can he be made to pay? What is his income? Is he willing to pay? More important in some cases is the question: is his wife willing to pay?

Esco Roberson, Texoma Agriculture Supply, Altus, Okla.:

Building sales in the fertilizer business calls for a service program that is as nearly complete as possible, in addition to advertising through press, radio and TV. The dealer should familiarize himself with the soils test. Keep the local county extension agent informed as to what grades of fertilizer are available. Keep individual records on farmers and their purchases of fertilizer from one year to another. Keep posted on new developments of agriculture locally. Follow through on sales—make sure that the farmer applies the fertilizer correctly.

Dr. Luther Brannon, director, Oklahoma agricultural extension service:

Today, one farmer produces food for himself and for 20 others. About 13% of the nation's population is engaged in primary production on the land. Ten percent is engaged in production of machinery, fertilizer and other farm supplies. Seventeen percent is engaged in marketing, processing, and related work. The total is around 40% engaged in one phase or another of "agri-business."

The tremendous increase in efficiency of agricultural production is a credit to the farmer, and to the research and extension workers and the industries that supply agriculture with needed tools and materials.

The Oklahoma agricultural extension service program in use of fertilizer got under way soon after the end of World War II, with the establishment of soils testing laboratories in many counties. Approximately 300 demonstrations, tours, meetings and other events to promote increased and wise use of commercial fertilizers were sponsored by the agricultural extension service during the past year.

Dr. M. S. Williams, National Plant Food Institute, Washington, D.C.:

The Institute will double its program in behalf of greater use of fertilizers during the coming year.

In a survey among Southern farm-

ers, it was found that 52% of them had had their soil tested. Weather, lack of sufficient money, non-recognition of need and preference for organic fertilizers were leading reasons given by those farmers who indicated that they did not use commercial fertilizers. Seventy percent said that demonstrations of fertilizers would influence them to use more fertilizers on their farms.

Raymond Doll, agricultural economist, Federal Reserve Bank, Kansas City, Mo.:

In the agricultural outlook for 1958, the major uncertainty is what is going to happen to demand. Business, government and consumer buying may add up to slightly more demand than in 1957, with some increase in prices because of a larger population buying about the same amount of goods.

Total net income to agriculture for 1958 should be about the same as for 1957. The net income per farm should be a little larger, because of con-

tinued decrease in number of farms.

Henry Bellman, farmer, Billings, Noble County, Okla.:

The general rule that 10% of the gross income from the land be reserved for improvement of the soil is a good one.

When a farmer is farming on a large scale (Mr. Bellman farms two sections, of which 1,000 acres are in cultivation), the time required to apply fertilizer is a very important matter to him. Fertilizer dealers could help by screening all fertilizer, including dust. High-analysis fertilizer is very good, because it is applied at a lower rate than is low-analysis fertilizer, and the farmer must stop fewer times to refill.

Farmers need more and better information on fertilizers. Dealers might well give more thought to selling the landlord on use of commercial fertilizer. His opinion often carries as much or more weight than the opinion of the renter, in decision to use fertilizer or ignore it.

QUIZ For Multiwall Bag Buyers

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- 4 Is the total cost of your bag out of proportion to the selling price of your product?
- 5 Does your product cost warrant redesigning your bag to merchandise your product more effectively?
- 6 Are you using the most economical filling machine available for packaging?
- 7 Are your current suppliers giving you the service you desire?
- 8 Are your suppliers integrated and capable of maintaining dependable service at all times, under all conditions?
- 9 Are your suppliers' representatives qualified to help you with your packaging, sales promotion and marketing?

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INCREASED OUTPUT, DEMAND . . .

Continuing Rise in Plant Food Consumption Seen for Pacific Coast Agriculture

By Frank McGrane

Sales Manager, Agricultural Chemicals Div.
American Potash & Chemical Corp.
Los Angeles, California

Contrary to regional trends toward a leveling-off or a drop in mixed fertilizer application in various parts of the United States, it would appear that the Pacific area will enjoy a reasonable continued upswing in mixed fertilizer consumption.

During the past two years, for example, use of chemical fertilizers in the Mountain and West North Central regions—which previously regis-

tered spectacular consumption increases on a percentage basis—have experienced a decrease, while Eastern, Southern and Central regions generally have leveled off in consumption of fertilizers.

In contrast to these trends, the Pacific states have continued to show a rise in fertilizer usage during 1956 and 1957 so that con-

sumption now registers an approximate 500% increase over 1942, a period covering 15 years.

This decided rise in fertilizer application during the past 15 years showed a sharp upswing during three periods: 1942-47, 1950-52 and 1955. Since then it has leveled off to a general 5% rise each year.

It is notable, in view of these trends, that the Pacific states' index number for 1955-56 (896 as compared to 100 for the 1935-39 average) is the only one for any region that is higher in 1955-56 than for any previous year. The obvious inference is that use of mixed fertilizers in California, Oregon and Washington is in a stable and rising situation.

Because of increased application in recent years, some producers undertook expansions during 1956 and 1957 of manufacturing facilities for forms of nitrogen, phosphates and potash. These expansions were widespread enough to place production at an unprecedented high. In

certain cases production has exceeded demand for the moment, but it is believed that usage will continue its upswing during the next few years.

Factors that should enter into this situation include not only a continuing rise in existing farm use but also new areas of application, such as pastures and hayland, that are comparatively new markets in the Pacific area and are seeing large percentage increases in use of mixed fertilizers.

Another item for consideration, although on a lesser basis, is the growing use of chemical fertilizers for turf, lawns and flowers and vegetable gardens. During the past few years, the suburban homeowner has become more and more a customer for balanced mixed fertilizers, and, although the amount used by each is almost infinitesimal, the sum total represents a market to be eyed with interest.

Aside from trends upward or leveling off in general usage, the manufacturing industry has had to take into consideration demand for various types or forms of product. The most notable of these is the trend toward granular mixtures, which has had its impact during the past two years.

At the Trona, Cal., plant of American Potash & Chemical Corp., for example, production capacity of granular potash was doubled during 1957 to accommodate this trend. During both the 1956 and 1957 planting seasons demand for granular potash at times exceeded output, and so the company allotted over \$750,000 of its \$3,500,000 1957 improvement program to increasing granular potash production.

At the same time, manufacturers have placed equal emphasis on unit cost and quality control.

Regarding cost, it is worth pointing out that the cost of potash for agricultural purposes has experienced no price increase in recent years, in sharp contrast to the rise in cost-of-living and products generally.

Quality control is a subject that has received added attention during postwar years, not only in the fertilizer industry but in all fields of manufacture.

The result has been higher quality for the purchase price, thus providing the buyer with better merchandise for his dollar. This general rule applies also to mixed fertilizers, so that the farmers will get added purity—with resultant higher return—for his dollar during the coming year.

These are some of the facts and figures as they have been laid down in the recent history of the fertilizer manufacturing industry in the Pacific area.

From these, we can draw some general conclusions that may be helpful in near-future planning.

It would appear that the "bursts" in fertilizer usage during the past 15 years probably have come to an end, and that growth in consumption will continue at a more level rate. In the Pacific states, this may logically be forecast at a 5% a year rise, with certain local variations.

Another conclusion is that education and population growth will be the primary factor in increased fertilizer usage. Thus forecasts on population trends will be of value in determining the size of future geographical markets.

Concentration of mixed fertilizer—a result of quality control—will increase during coming years. The pattern for this has been set during the past 15 years, and no evidence is apparent to change this trend.

The term, "balanced fertilizer," will become more and more a reality during the next five years as manufacturers revise their proportions of nitrogen, phosphates and potash to more equal percentages.

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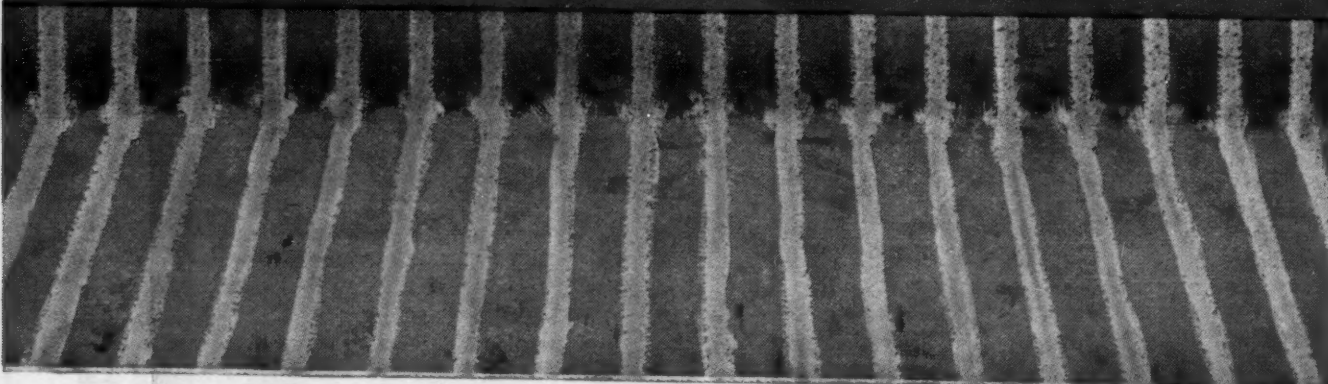


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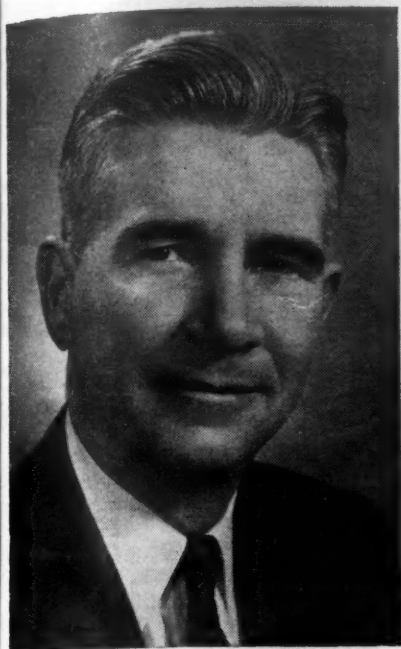
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G. A. Wakefield

Stepping Up Dealer Sales in 1958

By G. A. Wakefield

Plant Food Division, Olin Mathieson Chemical Corp.

The door to more profits can swing wide for the farm chemical dealer next year—if he uses a "sell-a-program" approach. Of course, this key will not fit the lock if the hinges of success are corroded with poor or indifferent management. But an aggressive dealer, who follows all of the time proven factors of good management, "selling a program" and not a single product can improve profits.

Selling a complete program to farmer-customers can benefit the dealer in a number of obvious ways; such as better control on inventory, more sales to each individual, assuring successful crops and profits for his customers, etc.; but at the same time will demand that the dealer stay

on top of the agricultural picture in his community.

Each program will vary according to crop and weather conditions, product demands and understanding, which meet the needs of the customer on whom each dealer relies for the success or failure of his "preplanned" program.

A diligent effort should be made by every dealer to gain more product knowledge of the products he is going to sell. He should know his market and customers, and know his competitors and competitive items.

Above all, he must sell himself on the economic value of his own products in the program that he is "push-

ing." He should promote a program and the program in turn should promote the items he offers for sale.

The chemical industry serving agriculture offers multiple services and information on the most economical and effective use of all farm chemicals. The dealer need only let his supplier know his needs for a complete educational and information service from highly skilled technicians. This information, properly disseminated by the dealer, can be of invaluable aid to his customers and will result in increased sales. It is to the advantage of the dealer to use this service. Thus can he be certain of the quality and accuracy of the technical information as well as the quality of products.

Custom Fertilizer Business, Equipment Rental Double Texas Dealer's Income

Renting fertilizer equipment and doing custom spreading have more than doubled sales for the Farm Chemical Co., Brownfield, Texas. Murphy May, owner of the firm, at one time planned to stop this phase of the business. Now he has five tractors equipped for spreading fertilizers, and several rental units. Next year he may even increase this number.

Mr. May found that his spreading service and rental units began bringing in extra business. The custom work is especially booming.

By watching the farming trends closely, he saw that farmers in this area were getting more and more land and heavier equipment. They didn't want to bother with fertilizer spreading, but were willing to turn it over to someone with the equipment and know-how.

"We found that farmers are asking for complete jobs on a lot of things, as farms get bigger," Mr. May explains. "They are now hiring their insect poisoning done and even get someone to spray the weeds."

Being able to give custom service brought a big increase in business, but some extra promotion and experimentation also boosted sales. Mr. May has been asking farmers to put down fertilizer at the same time they break their land after harvest. He rents units that can be attached to the farm tractor, and has kept close records on the tests.

QUOTE

"Farmers throughout this country and particularly in the southeast are faced with the increasing difficulty of higher costs and lower returns. This situation, however, is not hopeless except for those who are either unwilling or unable to make the necessary adjustments in production and marketing practices. One of the most important factors of production in southern agriculture is fertilizer. The wise use of fertilizer and lime on both forage and row crops can do much to stabilize production and increase returns to the farmer."—Dr. C. C. Murray, dean and coordinator, College of Agriculture, University of Georgia.

"They actually saved \$4.50 an acre in costs," Mr. May explains, "and the yields were somewhat higher. The nitrogen put down at land-breaking time and then watered caused a quick decay of grain sorghum stalks."

Knowing the soils of the area, by following the recommendations of the soils laboratory on dozens of samples sent in, and keeping accurate records of farm fields have all proved profitable.

The firm now has a backlog of information eagerly sought by farmers. They often come to the office and say they want the kind and amount of fertilizer most needed. The fertilizer used depends upon the soil, the amount of water the farmer has and the kind of crop to be grown. Also if fertilizer has been used before, this is considered. Then a tractor is sent to the field at the proper time, the job is completed and the owner writes a check.

"Farmers want fair prices, but they want service more," says Mr. May. "I think more dealers should consider this field service angle, particularly in areas where farm units are mechanical and of large size."

New Formulation and Market Plan for Carbide

NEW YORK—Union Carbide Chemicals Co., division of Union Carbide Corp., has developed a new way to formulate "Mylone" soil fumigant, and will institute a different plan for marketing the product, according to Dr. R. H. Wellman, manager of the Crag agricultural chemicals department.

The new formulation—to be designated "Crag Mylone 50D Soil Fumigant"—is a free-flowing mixture containing dry wheat bran. It can be applied with a fertilizer spreader, and control of soil fungi, nematodes, insects, and weed seeds can be obtained without the use of a plastic cover, Dr. Wellman says.

Carbide will market "Mylone" fumigant formulation grade only to pesticide manufacturers, who will formulate and assume full sales responsibility for their own brand name products. Carbide formerly supplied "Crag Mylone 85W" to pesticide distributors for sale to dealers.

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
CropLife Marketing Editor

There's an old adage which says, "Seeing is believing." The adage was never truer than in the "farm progress study day" held recently near Lake City, Ark., on the 400-acre Stroud farm.

Those in the business of selling fertilizer who were present watched while more than 100 interested farmers and business leaders "sold themselves on fertilizer" by seeing its results on this farm operated by the Melton brothers.

"Field days" such as this are beneficial to dealers because they do a sales promotion job for fertilizer in an unobtrusive but effective manner.

The Stroud farm, it was pointed out, was capable of producing not more than one bale of cotton an acre before 1957. This season, however, boll counts by experts indicated a yield of two bales or more per acre even though the Oct. 27 freeze reduced yields. Fertilizer and good management by the new owners, the Melton brothers, made the difference.

Oscar Melton, one of the operators on the place, says: "Farming is a lot of little things, and the more of the little things we can learn, the better farming we can do."

Some of the little things that have been learned and applied by the Melton brothers to their cotton operation are: Good seed, soil testing, fertilizer, irrigation, seed bed preparation, mechanization and insect control.

This year irrigation wasn't needed, but improving his fertilization program, Oscar Melton bedded out on 300 lb. of 6-24-24, put down 60 lb. of nitrogen as anhydrous ammonia before planting, and sidedressed with 50 lb. of nitrogen again when the cotton was knee high and just "squaring good." The entire fertilizer cost was \$20.40 per acre, returning several times the cost in higher yield of cotton.

Earlier this fall, the Melton brothers' pasture and livestock operation near Jonesboro was chosen for a co-operative "field day" held by the University of Arkansas and the extension service.

The field day was filled with activity, beginning with a farm tour. The first stop, at the cotton fields, was

supervised by Herbert Russell, Craighead county agent.

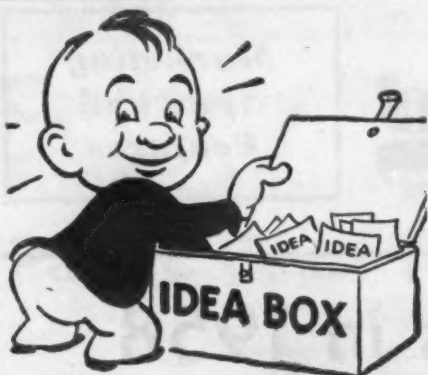
The second stop was supervised by SCS agricultural engineer M. J. Haney of Craighead County. This stop was at the well, where a discussion of the pump, land leveling and drainage, and irrigation was held.

At the third stop, a feature which can be used by any fertilizer dealer to heighten interest in his product, was used. Here visitors had an opportunity to make their own estimate of the year's yield. The person with the closest guess won a ton of fertilizer awarded later by the Plant Food Division of Olin Mathieson Chemical Corp.

Also, at the third stop, Dr. R. L. Beacher and Gene Woodall, from the University of Arkansas, led a discussion on the fertilizer used, the variety of cotton grown, and the important steps taken in the control of insect pests.

Stop four was at the milo field, where Dr. U. S. Jones, agronomist with Olin Mathieson Chemical Corp., pointed out that the milo combined off the field gave some of the best yields in this area, running from 4,500 to 6,000 lb., or about 75 to 100 bu. per acre.

Dealers who organize their own "field days" or who can get the assistance of their suppliers, county agents and state and federal officials, will find that such tours can be a helpful service tool. "Field day" visitors believe what they see.



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6667—Hydraulic Drum Lift

The Sterling, Fleischman Co. announces the production of its new model CP-1 hydraulic drum lift for controlled pouring. Company officials say that the unit's gear reducer control device is completely enclosed and assures self-locking and absolute control at any pouring angle. The unit is designed to handle 55-gal. drums and can be adapted to handle other sizes in steel or fibre drums on special order. The lifting capacity is 750 lb. and the lifting height is 70 in. Check No. 6667 on the coupon to secure details.

No. 6670—Equipment Bulletin

General Metals, Inc., has prepared a new bulletin (201) listing information about its facilities, products, personnel and other general information. The company makes a line of equipment for handling liquid fertilizers, from storage tanks to field applicators, as well as many other lines of equipment such as conveyors, industrial trucks, tanks of steel, aluminum or stainless steel, duct work, ventilators, etc. The bulletin may be secured by checking No. 6670 on the coupon and mailing it to Croplife. Please print or type name and address.

No. 6671—Trigger Valve

A new trigger valve has been announced by the Spraying Systems Co. for use with turn-handle type spray guns. Positive shut-off is provided for pressures up to 800 psi. Named the No. 46 trigger valve, the unit has these features: "The valve assembly is a heavy duty unit, employing packing and packing nut for a leakproof seal. The large trigger handle, form-



ed to give comfortable full hand grip, is made of plated steel for strength and long lasting service. A heavy duty trigger lock for spraying in open position is locked by a touch of the index finger . . . and releases as soon as the trigger is pressed." The valve is also supplied with adapters for directly connecting nozzles and extensions to make a spray gun. For details check No. 6671 on the coupon and mail it to Croplife.

No. 6672—Materials Handling Survey

Illustrated literature outlining details of a materials handling survey has been prepared by the Towmotor Corp. The literature describes in detail the system in which "expendable" cardboard pallets are employed in combination with hydraulically-operated "Side Shifter TowLoader" attachments. The literature is labeled "Certified Survey No. 179." The reader may secure the report by checking No. 6672 on the coupon and mailing it to Croplife.

Also Available

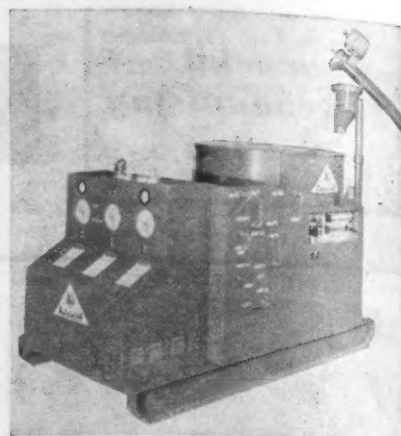
The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6660—55-Gal. Steel Drums

Vulcan Containers, Inc., is offering a line of open head and closed head, 55-gal. steel drums, manufactured to comply with Universal Standard dimensions, to meet Interstate Commerce Commission and Uniform Freight Classification specifications, company officials have announced. A variety of types and sizes of openings, fittings and plugs are available in the different style drums. The open head style will be furnished with the lever or bolt locking covers. In addition to standard colors and for product and company identification, the drums can be decorated, striped or painted any solid color. Details will be supplied without charge. Check No. 6660 on the coupon and mail it to Croplife. Please print name and address.

No. 6663—Liquid Fertilizer Plant

A skid-mounted, batch-type, complete analysis liquid mixed fertilizer plant featuring automatic operation has been introduced by the Barnard & Leas Mfg. Co., Inc. Called by the trade name, the "Complete Autobatch Skid Plant" the unit has a "B & L Autobatch" control unit for producing neutral solutions, a scale-mounted "B & L Liquilizer" for adding solids, automatic solids handling system with cycle control, central routing panel, completely wired and pre-piped



internally, all mounted on a heavy duty welded I-beam skid frame. It is designed as a complete package for ready installation by connecting to raw material supply, and electrical connection. A minimum of auxiliary equipment is required for the over-all operation, company officials state. A wide range of complete analysis liquid mixed fertilizers containing nitrogen, phosphorus and potash can be produced, it is claimed. Herbicides, insecticides and trace elements can be added to the formulation. Complete information on batch-type processing of neutral solution complete analysis liquid mixed fertilizers is available. Check No. 6663 on the coupon and mail it to Croplife.

No. 5858—Belting

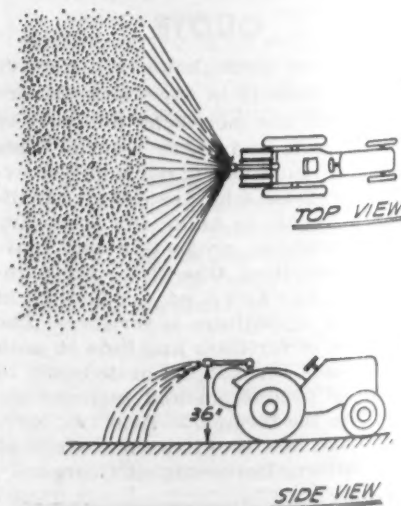
"Hycar" is the trade name of a synthetic rubber that has been adapted to conveyor belting by the Globe Woven Belting Co., Inc. Superior resistance to animal fats and vegetable oils is claimed. Company officials state that the belting stays pliable at -30° to -40° F. and maintains its stability at 250° F. Widths up to 48 in. and 3-, 4- and 5-ply weights are available. Several colors are provided. Check No. 5858 on the coupon and mail it to secure additional information.

No. 6661—Flaked Stearyl Alcohol

The Hodag Chemical Corp. has announced the production of a flaked, technical grade stearyl alcohol in bag form in the quantity requested by the user. Stearyl alcohol, according to the company, has possible application as an intermediate for insecticides and for several other uses. An information sheet listing specifications, physical and chemical properties, and other data, is available. Check No. 6661 on the coupon and mail it to Croplife.

No. 6659—Spray Nozzle Tip

The Spraying Systems Co. announces a new spray nozzle tip for use with its GunJet No. 2 or No. 42 spray guns that will project a spray in a flat spray pattern up to 42 feet wide. In use the spray gun is mounted on the rear of the tractor about 3 ft. above ground level and pointing to the rear. In this position, the spray gun will broadcast-spray grains and grasses and do related types of operations. The spray nozzle tip is identified as the DDOC tip, and is made



Send me information on the items marked:

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| <input type="checkbox"/> No. 5858—Belting | <input type="checkbox"/> No. 6664—Copper Sulphate |
| <input type="checkbox"/> No. 5875—Belting Catalog | <input type="checkbox"/> No. 6665—Package Design |
| <input type="checkbox"/> No. 5898—Portable Scale | <input type="checkbox"/> No. 6666—Floor Stand |
| <input type="checkbox"/> No. 6659—Nozzle Tip | <input type="checkbox"/> No. 6667—Drum Lift |
| <input type="checkbox"/> No. 6660—Steel Drums | <input type="checkbox"/> No. 6668—Products Catalog |
| <input type="checkbox"/> No. 6661—Stearyl Alcohol | <input type="checkbox"/> No. 6669—Fertilizer Placement |
| <input type="checkbox"/> No. 6662—Rotary Valves | <input type="checkbox"/> No. 6670—Equipment Bulletin |
| <input type="checkbox"/> No. 6663—Liquid Fertilizer | <input type="checkbox"/> No. 6671—Trigger Valve |
| | <input type="checkbox"/> No. 6672—Materials Handling |

(PLEASE PRINT OR TYPE)

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 34.9,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept.

Minneapolis 1, Minn.

with four orifices to provide equalized distribution of the spray throughout the pattern area, it is claimed. For details check No. 6659 on the coupon and mail it to Croplife. Please print or type the necessary information.

No. 6668—Products Catalog

Publication of the 1957-58 edition of its general products catalog is announced by the Dow Chemical Co. The revision includes latest information on properties and uses of some 75 of Dow's basic agricultural, industrial and pharmaceutical chemicals. The 38-page edition includes descriptive information on principal product groups. Detailed information is given in tabular form for quick, easy reference. A copy may be obtained by checking No. 6668 on the coupon and mailing it to Croplife. Please print or type name and address.

No. 6665—Package Design

Newly designed packages are being used by the Diamond Alkali Co. for packing and shipping its agricultural and industrial chemicals. Shown are the 5-gal. metal drums containing the company's Premium Brand Grain



Fumigant. The design features a trademark adopted earlier this year in a standard contrasting color combination of regal red and black. The company's line of more than 100 chemicals in packages is now identified with the new design. Secure details by checking No. 6665 on the coupon and mailing it to this publication.

No. 6664—Copper Sulphate

The Republic Chemical Corp. has prepared a brochure on "Copper Sulphate" which describes in detail the method used to produce Copper Sulphate in a modern plant. It gives statistics as to quantities used in industry, agriculture and export. It describes the various grades produced, such as large crystals, medium crystals, granular, snow and micro-pulverized, free-flowing, noncaking instant powder. Detailed specifications and uses are listed. Secure details by checking No. 6664 on the coupon and mailing it to Croplife.

No. 6662—Rotary Valves

Rotary valve literature describing Day style "A" rotary valves has been announced by the Day Co. The bulletin describes the various applications for the company's valves, types available and illustrates actual installations, complete with dimensions, specifications and capacities. To secure a copy check No. 6662 and mail it to this publication.

No. 6669—Fertilizer Placement

A booklet entitled "Fertilizer Placement" has been issued by the American Potash Institute. Institute officials say "the latest efficient methods

of placing fertilizer for row crops are discussed for busy agricultural workers in the new 40-page booklet." Four authorities wrote the major articles. The four men are Dr. S. L. Tisdale, National Plant Food Institute; Dr. A. J. Ohlrogge, Purdue University; Dr. D. P. Satchell, Pennsylvania State University; and Dr. R. L. Cook, Michigan State University. The booklet is available without charge. Check No. 6669 on the coupon and mail it to Croplife. Please print name and address.

No. 6666—Floor Stand

A floor stand with customer access from four sides has been created by the Container Corporation of America for Swift & Company's plant food division. The merchandiser occupies a floor space of 2 ft. by 2 ft. and provides 16 sq. ft. of shelf facing and 8 sq. ft. for advertising and merchandising messages. Construction is a combination of corrugated board and spiral wound tubes. Company officials say that the unit can be set up in five minutes. The unit holds seven cases of Swift's garden supplies. Check No. 6666 on the coupon and mail it to secure details.

No. 5875—Belting Catalog

A new catalog has been issued by Extremultus, Inc., manufacturer of power transmission belting made of polymer and chrome tanned leather. The catalog contains sections on significant applications, a description of the belt, selection of the proper belt type, tensioning and maintenance, and bearing load reduction. A free copy may be obtained by checking No. 5875 on the coupon and mailing it to this publication.

No. 5898—Portable Vehicle Scales

Details and specifications of a line of portable vehicle scales in capacities to 70 tons and lengths of 60 ft. are available from the Howe Scale Co., subsidiary of Safety Industries, Inc. Company officials say that addi-

RINGING THE CASH REGISTER

Success Factor

Successful soil sampling programs usually indicate successful retailers of fertilizers. The Maas Grain & Feed Co., Iowa City, Iowa, pushed fertilizer sales to 725 tons in two years. The firm's officials say that the soil sampling program was primarily responsible for the increased sales.

Let Others Know

"Doing business without advertising is like kissing a girl in the dark. You know what you are doing—but no one else does." From the American Dehydrators Assn. Bulletin.

tional scale sections can be joined for greater length and capacity; this operation requires nine standard bolts. No pit is required. Many weight record devices may be used with the scales, it is claimed. Secure details by checking No. 5898 on the coupon and mailing it to this publication. Please print name and address.

Texas Turf Men Get Advice Straight From Golfer's Mouth

COLLEGE STATION, TEXAS — The Texas Turfgrass Assn. used a little different approach this year to help bring home management problems in turf, particularly in golf courses. They invited Jackie Burke of Houston, one of professional golfing's best-known faces, up to speak on the subject.

This "consumer-preference" idea paid off well, too, since Mr. Burke does about as well at the speaker's podium as he does on the fairways.

"You'd be surprised," he told them, "but one of the biggest problems I face is the constant adjustment to turf conditions. If you play golf for a living as I do, turf makes a tremendous difference.

"Eastern and midwestern courses, where we do most of our tournament play, aren't as well equipped with watering systems as those in Texas and in some other areas.

Therefore, to keep the course green, they let the grass grow long.

"Practice in Texas where we have good, firm grass that will support the ball isn't much help then. On those courses where we play for money, the tall grass lets the ball nestle down in it. That grass—and sometimes clover—with all the juices, between the club and the ball, allow no control at all. It's as though you put vaseline on Ted Williams' bat!

"A professional golfer has to be able to maneuver the ball—but in tall grass you have to forget about putting any action on the ball; you just play a ball and hope.

"I think that golf—and the maintenance of golf courses—is and should be more than just a mechanical or chemical problem. I think that all greens-keepers should be golfers. They then would understand some of the problems the golfer faces."

Dr. E. C. Holt and John A. Long, both of the department of agronomy at Texas A&M College, where the 12th annual Texas Turfgrass Conference was held, were joint chairmen of the meeting, which was attended by 157 persons from Texas and neighboring states.

Grover Keeton of the parks and recreation department, Dallas, was named president of the Texas Turfgrass Assn. during the conference. He replaces retiring president Bob Frazer of the parks and recreation department, San Antonio.

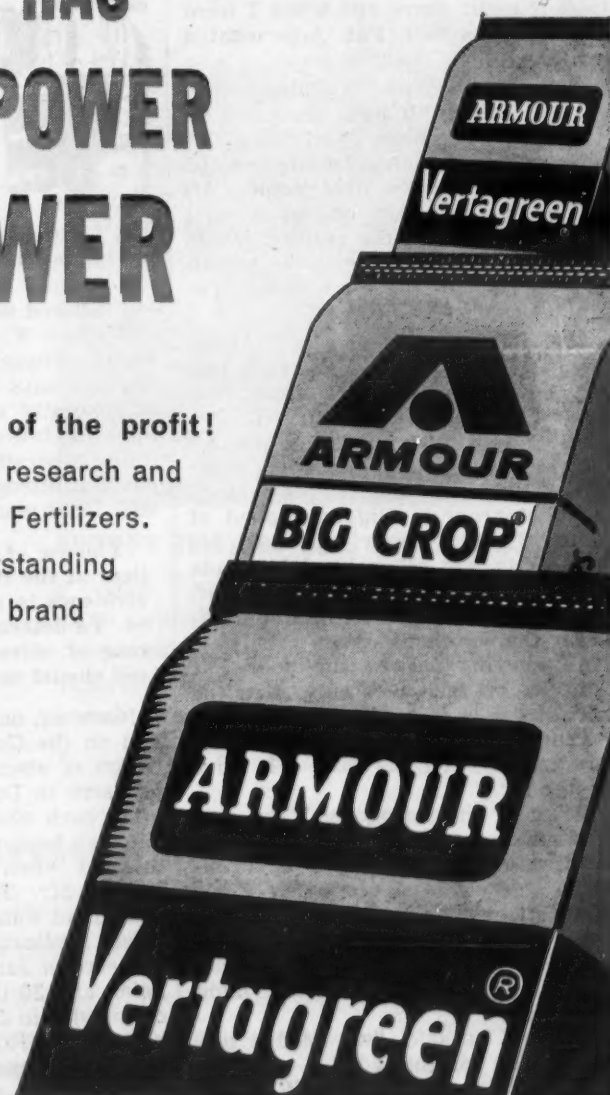
ARMOUR HAS GROWING POWER SALES POWER

Proof in the fields is the proof of the profit!

Dealers know Armour's half-century of research and experience go into every bag of Armour Fertilizers.

Year after year, sales prove customers get outstanding results with these famous fertilizers. Sell the brand that's easiest... Profit with Armour!

31 Offices and factories to serve you!
ARMOUR FERTILIZER WORKS
P.O. BOX 1685 ATLANTA, GEORGIA





Doing Business With

Oscar & Pat



By AL P. NELSON
Croplife Special Writer

When Oscar Schoenfeld came back from lunch, he very carefully took off his rounded fur cap, brushed the snow from it and hung it up. Carefully, too, he brushed the snow from his red mackinaw and hung that garment up, also.

It was then that he noticed the young fellow holding a camera who was chatting with Tillie Mason, the bookkeeper. The fellow was hatless, and a cigarette dangled from his chubby lips. The big press flash box was slung over his shoulder, while the huge camera was grasped carelessly in his right hand. It was Ralph Higgins, photographer for the local newspaper.

"Oh, hello, Mr. Schoenfeld," he greeted. "I'm to get a personality mug shot of you. Now if you'll just sit at your desk there and when I'm ready I'll tell you to say 'cheese'."

Oscar stiffened. "Ach, just wait a minute!" he bristled. "What is this picture for?"

"An ad," replied the photographer. "Didn't Pat tell you? It's a full page ad on your firm which will be in next week's issue. Let's move that big green frog off your desk. And could we put that big 8-ball out of sight? They might not look so good in the picture."

"Ad?" snorted Oscar. "I don't agree with any of the ads that we run. Ads are just something that keeps you fellows in business. They don't help us much."

Ralph Higgins' lips tightened. "Listen, Mr. Schoenfeld. I'm a busy man. I haven't time to argue with you. Pat told me to get a picture of you for the ad. Can't we get together and get it done?"

"No," snapped Oscar. "I don't want my picture taken. Ach, I have something to say about it. Besides you have a picture of me. The newspaper took it eight years ago when I went into business with Pat. Ach, what a mistake."

"That picture isn't suitable," Higgins explained. "It's got scratches on it, and the ink blurs there. And Pat says you're too sober looking on the picture. He wants a new picture. All you got to do is say 'cheese' when I get ready to snap the picture. When you say 'cheese' it opens the mouth wide and shows the teeth like you're smilin'. Honest, it's easy."

"I will not say 'cheese'," Oscar snapped. "Ach, how foolish can this business get? Now take that camera and get out of here. I have work to do. I have no time to waste."

Oscar turned abruptly to his desk, looked over some figures, his back to the photographer. Higgins looked at Tillie, then at Oscar and held his nose. With the other hand he made a deprecating gesture toward Oscar, then picked up his camera and started for the warehouse door.

As Higgins opened the door Pat came in, his lean face rosy from the cold.

"Your sidekick don't want his picture taken," Higgins said. "He gave me the air."

"Wait in the warehouse," Pat said in a low voice. "I want you to take pictures of the employees—and Tillie."

The photographer went into the warehouse, and Pat approached his desk. He took off his black fur cap and his grey stormcoat and hung them up.

"Oscar," he said, "we need a picture of you for this ad."

Oscar did not look up. "We don't

need any ad. Ach, we have had too many ads."

"But this ad is important, Oscar, and it is different."

"You say the same thing every time you spend our money. Always something is awfully important. It's important, too, to keep expenses down, to get more money in the reserve over in the bank."

Pat's lips tensed with irritation.

"Oscar," he said slowly, counting to 10 mentally as Nora told him to do, "this is the end of the year. We need to thank our customers for giving us business during 1957 and hope we can continue to serve them well in 1958."

"Thank them!" Oscar blurted. He turned to look coldly at Pat. "Ach, we should thank them fellers that owe us money and haven't paid for a long time. There is too many of them. We don't want that kind of business in 1958. We want quick pay business."

"Every business man must take both kinds of business, cash and credit to get the volume he wants," Pat said. "That's the way this country is run nowadays and we have to go along with the trend. In this ad I wanted a picture of you and me and all the other employees in the firm in a big full page ad, and I want us all to be smiling."

"A full page!" gasped Oscar. "Has Christmas gone to your head? Let's just take one of those 2-in. one column greeting ads if you have to have one."

Pat shook his head. "An ad that small won't do for us what I want this ad to do. The county ag agent told me, Oscar, that a national farm survey showed that every year the farm population in most

places changes considerably. In fact, about 20% of farmers in every area either die, retire, or move elsewhere. That means that 20% of our prospect and customer list consists of new farmers every year."

"You spend too much time with that county agent and not enough time out collecting," Oscar snapped.

"If 20% of our prospects and customers are new in the area," Pat reasoned, "then we most certainly should publish a full page ad once a year, telling them and our regular customers about our company and services."

"Ach, let them ask about us if they want to check up," Oscar said sharply. "Let's not spend money tellin' them."

"This ad," Pat went on, "would show the smiling face of every one in this organization, and people would think we are all friendly, which we are," he looked at Oscar, "or we should be. Then we can list all our products and services, such as liquid and dry fertilizers, spreading, applying, weed spraying, insecticides, feeds, seeds, spray equipment, garden tools, tractors, power mowers, farm freezers, farm hardware, etc. Let people know what we're got—that's my idea."

"We've got too much," Oscar came back quickly. "You buy too much. Our shelves are jammed, our warehouse is full and still you buy, buy, buy."

Pat's face was white. "I'm going to run that ad, begorra," he said slowly, "and you can't stop me. And we'll use your picture, too, just the way the engraving is."

"If you do," Oscar growled, "it will show those stinkers that don't pay their bills that one partner is not an easy mark. Let all the rest of you say 'cheese' and look foolish, but not me!"



FARM SERVICE DATA

Extension Station Reports

A topdressing of nitrogen fertilizer on fall-seeded small grain is a good way to add forage for livestock during fall and winter.

William F. Bennett, soils chemist for the Texas Agricultural Extension Service, says that nitrogen fertilizer is generally the main need for topdressing fall-seeded small grains, as there generally is ample moisture to put the nitrogen to work to produce additional plant growth.

The use of the right kind of fertilizer at the right time has provided dividends in most of Texas, he added. To determine the most efficient rate of nitrogen, or any fertilizer soil should be tested.

However, on East Texas sandy soils and on the Gulf Coast Prairie application of about 30-40 lb. of nitrogen per acre in December or January or after each time the small grain forage has been grazed down is recommended when soil moisture is adequate, Mr. Bennett said. On the Blackland soils of Central and North Texas application of 30 lb. of nitrogen per acre in January has proved beneficial, and 30 lb. per acre also is recommended in January or early February in the Rolling and High Plains and West Texas.

Food value of the pasture will be

increased in addition to increased amounts of forage for grazing if nitrogen is added. Oats, rye, barley and wheat contain scarce food nutrients not found in many winter rations. These small grain pastures generally contain as much as 20% protein at their peak grazing stage, he concluded.

★

Many tobacco growers would profit by making light applications of lime, while others are planting tobacco on land that has been limed too heavily.

This fact was pointed up, report agronomists at Virginia Polytechnic Institute, by a summary of soil tests from eight flue-cured tobacco counties and four fire-cured counties. The easiest way to tell which side of the fence you are on is to have a soil test made.

The agronomists say that when the pH is below 5.0, phosphorus and certain other elements may be less available than when the range is from 5.4 to 5.7—the desirable range for flue-cured tobacco. An adequate supply of readily available phosphorus is necessary for good root development and early plant growth. The soil test will help determine the amount of lime

to apply to raise the pH to the desirable level.

When too much lime is used, a condition favorable for the development of certain root rot diseases is created. Tobacco crops grown on land with a high pH are often irregular, low in yield, and poor in quality.

Taking a soil test is especially important for growers who are making low yields of poor quality tobacco, who are trying to lengthen their rotation, and who plan to use land that may be high in organic matter.

★

A magnesium isotope aids soil technicians in measuring available magnesium in soils, according to Dr. D. A. Brown, associate agronomist at the University of Arkansas' Agricultural Experiment Station.

Dr. Brown said that four-week-old corn plants absorbed enough of the isotope, magnesium²⁸, in 72 hours for scientists to compute the amount of magnesium in the roots and tops of the plants.

Magnesium²⁸ is a radioactive member of the magnesium family. The atom's radiation allows scientists to trace in a plant the absorption and distribution of magnesium fertilizer and soil magnesium.

In tests at the Arkansas station, increasing the rate of magnesium fertilizer increased the percentage of magnesium that plants obtained from the fertilizer in each of four stages of nutrient uptake. Conversely, at any one fertilization rate, increasing the level of soil magnesium reduced the percentage of magnesium derived from the applied fertilizer.

Data indicate that magnesium²⁸ may be used for as long as 5 half-lives to study nutrients uptake by plants. Since a half-life of the chemical is 21.3 hours, it could be used for approximately 106 hours when testing the amount of magnesium in plants.

★

Rice farmers may chemically control scum in fields and canals, according to researchers with the University of Arkansas' Agricultural Experiment Station working at the Rice Branch Experiment Station near Stuttgart.

"Scum" or "moss" formed in rice fields and irrigation canals is simple plants known as algae.

In the cooperative studies with U.S. Department of Agriculture Agricultural Research Service, scientists got promising results on algal control with 1 gal. of Delrad 50 an acre applied before algae appeared on the soil. Delrad 50 is a liquid containing 50% by weight of active ingredients.

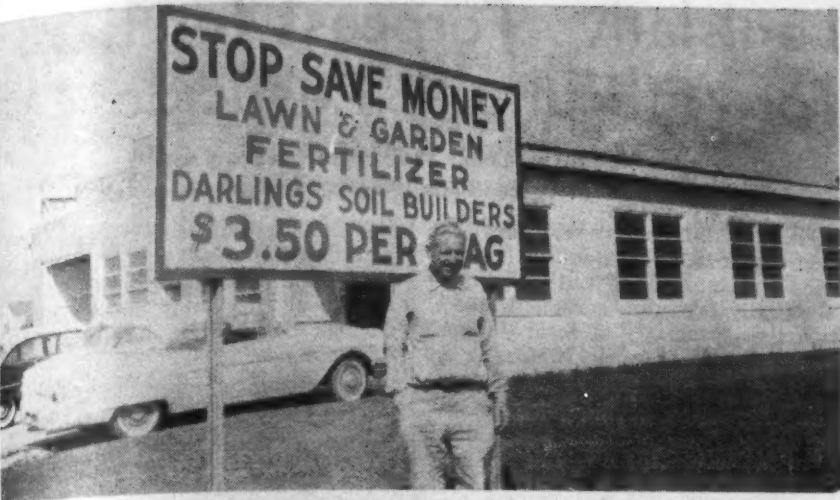
"It might be possible to prevent excessive scum formation if Delrad 50 were applied immediately upon the first appearance of the algae on the soil but observations indicate that rates in excess of 1 gal. per acre would be necessary," was brought out in a report on the study of algal control.

Delrad 50 was not toxic to rice seedlings when applied at 9 lb. an acre or metered into flood water at 9 ppm (parts per million).

Inconsistent results were obtained with copper for controlling scum-forming algae in rice fields and irrigation canals because of differences in species of algae and in local water and soil conditions.

NORTH CAROLINA SHIPMENTS

RALEIGH, N.C. — North Carolina fertilizer shipments during October totaled 70,631 tons, compared with 62,001 tons in October, 1956, according to the North Carolina Department of Agriculture. Shipments for the first four months (July-October) of this fiscal year amounted to 142,936 tons, a gain over 129,265 tons in a comparable period a year earlier.



ATTENTION-GETTER—This red, black and white sign is erected each spring to attract the attention of bagged fertilizer users in the trade area of Riley's Feed Service at Bensonville, Ill. Claude Riley, owner of the firm, is in front of the sign. Mr. Riley, who owns 10 acres of land where he has his business, makes good use of highway frontage by placing numerous signs to attract the attention of motorists. His headquarters building (background) has drive-in doors and the retail store occupies the front half of the 54 by 154 ft. structure.

G.L.F. Exchange Makes Appointments

ITHACA, N.Y.—Appointments to fill key posts in Cooperative G.L.F. Exchange, Inc., have been announced by E. H. Fallon, general manager-elect. All are effective Jan. 1.

Charles H. Riley, Jr., LeRoy, western area manager, will be director of wholesale operations.

R. Bruce Gervan, Ithaca, director of public relations, becomes assistant to the general manager and assistant G.L.F. secretary.

Warren A. Ranney, Ithaca, director of industry relations is named director of public relations and information, combining this with his present work in industry relations.

Milton E. Harris, Trumansburg, farm supplies sales manager, becomes director of personnel relations, succeeding Gaylord W. Hymen, who becomes personnel department manager.

A. Bradford Morgan, Dryden, sales

division personnel supervisor, has been named by Ronald N. Goddard, sales division manager, to take over as manager of farm supplies department.

Kenneth Joy, Canandaigua, western area division sales manager, is named western area manager, by Glenn E. Edick, director of distribution for the Exchange.

HEAD HORTICULTURAL SOCIETY

CORVALLIS, ORE.—Oregon State Horticultural Society officers were named at the recent annual meeting of group on Oregon State College campus, Corvallis. They include Orville Hamilton, Central Point, president; Walter Leth, Independence, first vice president; William Hazel-tine, Parkdale, second vice president; Steven Nye, Medford, third vice president; Paul Willard, Salem, treasurer; and C. O. Rawlings, OSC horticultural specialist, secretary. Ross Hukari, Hood River, is immediate past president.



Brea Brand Prilled Ammonium Nitrate

QUICK DELIVERY...

WHEN AND WHERE YOU NEED IT!

SAME-DAY SHIPMENT—It's your choice when you order Brea Brand Prilled Ammonium Nitrate: by rail or by truck, you get same-day shipment, prompt delivery even during the peak season.



YOU KNOW WHEN AND HOW IT'S COMING—Mike Butler of our traffic and distribution department makes sure your order is processed immediately. With Brea Brand you know when your shipment is coming, how it's coming, and the car number—ahead of shipment.



NO WAREHOUSING PROBLEMS—We do your warehousing for you. Four huge warehouses assure ample supplies of Brea Brand Prilled Ammonium Nitrate all year long. Count on us to eliminate your storage problems and reduce your inventory during peak season.



PROMPT DELIVERY CUTS COSTS, SAVES TIME—Avoid double handling costs by ordering Brea Brand fertilizer. You can promise your customers quicker delivery, knowing that rush shipments can be made to their farm or ranch when they want them.

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BRAND FERTILIZERS

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CORPORATION
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BREA BRAND PRILLED AMMONIUM NITRATE

...THE PREMIUM QUALITY DRY FERTILIZER

Order by wire or phone—Los Angeles—RICHmond 7-0116

33.5% Nitrogen guaranteed • Ammonic Nitrogen—16.75% • Nitric Nitrogen—16.75%

Uniform-sized prills flow freely, apply evenly.

Fast-acting... long-lasting.

Packaged in 80-lb. polyethylene-lined bags.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

The key role played by chemicals in the production and protection of cotton was emphasized by speakers at the Beltwide Cotton Production Conference held at Memphis, Tenn. Dec. 12-13. Pesticide leaders pointed out hazards of insect resistance and the expense of introducing new toxicants to control cotton pests.

A fiercely competitive market for anhydrous ammonia was foreseen by attendants at the Agricultural Ammonia Institute held at Little Rock, Ark. Dec. 11-13. At the same time, a future of unlimited possibilities for the industry was also seen by convention speakers, if the agricultural community can achieve greater productivity per dollar of investment. Use of NH_3 can play a key role in realizing this objective, it was brought out.

The decision by USDA in reducing the price support level for dairy products to 75% of parity was seen as a hint that somewhat the same policy may later be used on other crops now being supported at high rates. Ezra Taft Benson, Secretary of Agriculture, regarded the situation with some satisfaction and was enthusiastic about the prospects for eventually eliminating flexible price supports, rigid high price supports and acreage allotments.

A technique for rearing boll weevils without a cotton diet was achieved by Dr. Erma Vanderzant, USDA researcher at Texas A&M College. Her development of a synthetic diet for the insect makes it possible for the first time to study boll weevils reared under controlled conditions in the laboratory.

Reports on control of herbaceous weeds, woody plants, weeds in field and horticultural crops, and brush on rangeland and pastures featured the 14th annual North Central Weed Control Conference held at Des Moines. A turnout of 600 persons was recorded.

Chemical & Pigment Co., Oakland, Cal., has completed a new plant in Oakland for the production of Meteor Brand 36% zinc sulphate.

The reaffirmation that dealers, county agents, demonstrations and soil tests are vital factors in influencing farmers to buy fertilizer was heard at the Minnesota Soils and Fertilizer Short Course.

The battle against the imported fire ant is gaining momentum in the South, claims the U.S. Department of Agriculture.

More labeling rather than less is in the future of the pesticide industry, according to a U.S. Department of Agriculture spokesman at the annual Rutgers University pesticide dealers' conference.

Fire destroyed the main section of the G.L.F. Cooperative's insecticide and farm chemicals building at Big Flats, N.Y.

The U.S. Department of Agriculture set an allotment of 38,818,381 acres for the 1958 corn crop in the 932-county commercial corn producing area in 26 states. The 1957-crop corn allotment was 37,288,889 acres.

Six potash producers who in June withdrew from active participation in the activities of the National Plant Food Institute, rejoined the NPFI following a readjustment of the dues structure by the Institute. The moves were made on an individual company basis.

That pesticides are an important part of any successful farm operation, was emphasized at the Ohio Pesticide Institute's meeting in November. Subjects ranged from discussions on residues to the role of gibberellic acid in agriculture.

Speakers at the Eastern Branch of the Entomological Society of America differed in their expressed views of efforts to eradicate the gypsy moth versus merely holding the pest under control. Not only the technical aspects of the problem were discussed, but the public relations side effects as well.

The U.S. Department of Agriculture established special pioneering research groups to explore unknown areas of science. Studies will be made on plant and animal nutrition, insect pathology and physiology, and basic research in other areas.

Pacific Cooperatives announced plans to build a new \$50,000 fertilizer plant near Blackfoot, Idaho. Facilities for producing aqua-ammonia will be constructed first and expansion in other directions later.

Nearly 325 delegates turned out for the National Liquid Fertilizer Assn. convention in Cincinnati. Richard Cecil, Bartlett & O'Bryan Fertilizer Co., Owensboro, Ky., was named president. Ideas for expanding sales were discussed and equipment displays were set up during the convention.

The cost of fertilizer to farmers rose only about 1% in the year ended last Sept. 15, according to the U.S. Department of Agriculture. The fertilizer increase was the lowest in the USDA list of farmer production items except for seed and feed.

Insect resistance is real but is not always the cause of poor control measures with insecticides, it was pointed out at the Florida State Horticultural Society meeting.

The California Fertilizer Assn. met at San Francisco in its 34th annual meeting. William G. Hewitt, Berkeley, was elected president to succeed Jack Baker, Los Angeles. Dr. R. L. Luckhardt, Collier Carbon and Chemical Corp., Los Angeles, was named "Industry Man of the Year."

The cotton yield for 1957, tallied at 413 lb. an acre, was 4 lb. an acre under the record of 1955, but still greatly beyond the ten-year average. Bales produced this year were estimated at 11,788,000 as compared to 13,310,000 bales produced in 1956.

Dr. Frank J. Welch was appointed to the board of the Tennessee Valley Authority on an interim basis, to replace the late Raymond R. Paty who died earlier this year. Other members of the board, now at full strength, are Herbert D. Vogel, chairman, and Arnold R. Jones. Mr. Jones is also on the board on an interim basis. The appointments of both himself and Dr. Welch will have to be confirmed by the Senate when it convenes early in 1958.

Legislative Forecast for 1958 For Agricultural Pesticides

By J. A. Noone

Technical Adviser, The National Agricultural Chemicals Assn.

The legislative forecast for 1958 with regards to agricultural pesticides may be summarized as follows: "Generally fair and continued warm, with the probability of local thunder storms accompanied by lightning in some areas."

Next year will be a so-called "light legislative year." This means that only 17 state legislatures are now scheduled to convene, compared with the 45 state legislatures scheduled to meet during 1957. However, a few more will probably meet in special session. On the other hand, several of the state legislatures are restricted to consideration of financial and budgetary matters. Thus, the general outlook is for comparatively little pesticide legislation.

Experience, however, has shown that even a "light legislative year" brings its share of legislative problems. A few storm clouds may already be seen on the 1958 horizon.

The difference between a "light year" and a "heavy year" is primarily one of quantity rather than quality. Next year, the National Agricultural Chemicals Association will probably have to review approximately 150 state bills with potential impact on pesticides and take action on a number of them. This will amount to approximately half the load of a "heavy legislative year."

This article briefly reviews the over-all outlook for legislation which might affect pesticides, as we now see it. No effort is made to explain in detail the proposed legislation or the Industry views on it, such being beyond the scope of this article.

First, for legislation directly affecting agricultural pesticides.

Reports and preliminary activities indicate that the Model State Insecticide, Fungicide, and Rodenticide Bill, or some variation of it, will be introduced in at least two states. This should pose no particular problems if the model bill is closely followed and reasonable registration fees are specified in the bills.

Bills to require dating of pesticides are expected to be introduced in at least one legislature. These usually provide that the date of manufacture be stamped on the label, or that the label carry an "expiration date" or the date beyond which the strength or effectiveness of the product may be questionable. The former requirement is comparable to the practice followed on bread and milk, while the latter corresponds to that on batteries and camera films. Similar bills in the past have been opposed by the Industry because they imposed unjustified and unnecessary burdens on the Industry and were not in accord with the technical facts involved in the formulation, packaging, and stability of pesticides.

Legislative proposals to regulate the application of agricultural pesticides are expected in a few states. Indications are that they will be aimed primarily at custom applicators and their operations. However, some may affect the individual grower, and others may cover large-scale pest control programs. This type of bill can vary considerably in its scope and provisions. Each must be analyzed individually to determine its possible impact and acceptability.

A few states have indicated a desire to extend the scope of existing laws so as to cover such materials as defoliants and plant growth regulators. It is hoped that such legislation will not be introduced during the coming year in view of the fact that this matter is now under study by

the Industry and the regulatory official associations. Legislation in this field should be postponed until the results of this study and recommendations based upon it are available for guidance.

Legislation which could affect pesticides and other agricultural chemicals, although not concerned primarily with them, will undoubtedly receive consideration in some state legislatures, as well as in the federal Congress.

Some states will consider the so-called Hazardous Substances Bills which are designed to protect users of hazardous chemicals by requiring special labeling. Such bills vary in their coverage, although most of them are concerned primarily with household chemicals and preparations. Some may include pesticides or other agricultural chemicals within their scope. Three such bills are now pending in the Congress and will probably receive consideration in 1958. The federal bills contain exemptions for agricultural chemicals, on the basis that they are already adequately regulated and labeled. It is hoped that this fact will be recognized by the various states and that the state bills will contain a similar exemption.

Also pending in the Congress are a number of so-called "food additive" or "chemical additive" bills. These were the subject of committee hearings in 1957 and will probably be the subject of further hearings in 1958. These bills contain exemptions for pesticide chemicals which are subject to the Miller Amendment. They would, however, further regulate other agricultural chemicals not now under the Federal Insecticide, Fungicide, and Rodenticide Act or the Miller Amendment. Washington opinion is divided as to whether any of these bills will be enacted in 1958.

Thus, the outlook is that 1958 will bring a normal amount of legislative activity and problems for the Agricultural Chemicals Industry.

Two Named to Board of Smith-Douglass Co.

NORFOLK, VA.—Bliss Ansnes and John L. Gibbons, both of New York City, were elected to the board of directors of Smith-Douglass Co., Inc., at the firm's recent annual meeting held in Norfolk, Va.

A graduate of Stanford and Columbia Universities, Mr. Ansnes is a member of the law firm of Mudge, Stern, Baldwin and Todd. Mr. Gibbons is executive vice president of the Chemical Corn Exchange Bank and also a director of Angostura-Wupperman Corp. Ralph B. Douglass, Smith-Douglass board chairman, made the announcement.



"I'll be in and pay that bill tomorrow who's calling please?"

Fall Fertilization Outlook

By J. C. Denton

Vice President, Agricultural Chemicals Division
Spencer Chemical Co., Kansas City

Traditionally, the fertilizer business has been a three-month feast, nine-month famine affair. In order to effect economies of manufacturing, mixing and distribution, all of us in the fertilizer business would like to add a few days to the feast period at the expense of all-too-common days of famine. To do this means developing a new or extended fertilizer use season.

The best opportunity for a new use season for nitrogen-containing mixed fertilizer and straight nitrogen material is undoubtedly in the fall. Approximately 50 to 55% of our nitrogen materials are sold in a three-month spring period.

Our advertising people have initiated several localized fall application promotion campaigns. Although we have been satisfied with the accomplishments, it is impossible to place accurate quantitative measure on their success. For example, our fall application "push" was more effective during the fall of 1957 than it was the previous fall, but there were a number of complicating factors that caused the two seasons to differ. A couple of big factors that contributed to increased 1957 fall sales were improved soil moisture conditions in many areas, plus a sizable fall price discount. Thus, a study of tons sold this fall vs. last fall is not an entirely reliable measuring stick.

Our market research group just completed an interesting and informative survey of fertilizer dealers in regard to our fall fertilization promotion efforts. Perhaps data of this type can give a better answer in regard to the value of fall fertilization promotion. Questionnaires were mailed to 275 dealers—183 of which returned a complete form. All of these dealers were located in areas of our fall fertilization advertising campaign.

One of the questions asked was, "Has your fall business (1. Decreased ... 2. Increased ... 3. Stayed the same ...) in the last three years?" Forty dealers answered "decreased," 72 answered "increased" and 57 answered "stayed the same."

This question was followed by the question, "Do you feel Spencer fall advertising has assisted you in making fall sales? ☐ Yes ☐ No. If 'yes,' this assistance was (Little ..., Moderate ..., Very helpful ...)"

In answering this question, 133 said, "Yes," 28 said, "No," and 21 did not know or gave no answer. Of those dealers answering, "Yes," 31 said that the advertising assistance was "Lit-

tle," 66 answered "Moderate," and 27 were complimentary and answered, "Very helpful."

These answers were regarded as evidence that fall application can be increased by advertising and that dealers welcome advertising and other promotional efforts that "plug" fall uses of fertilizer.

It must be said, however, that our promotion of the fall application of nitrogen-containing fertilizers at this time cannot be an all-out effort. Industry fertilizer recommendations must be in line with those of recognized agricultural colleges and experiment stations. We haven't received a green light in some states

and for some uses that we have a hunch might work.

We, of course, will not ask the farmer to use fertilizer in the fall if there is no advantage in it for him. It is our plan, therefore, to promote fall use in those local areas where experimental evidence has indicated fall use to be equal or better than other times and methods of application. We believe that the following three uses have increased potential in particular areas in our fall fertilization promotion planning:

(a) Topdressing fall-seeded small grains.

(b) Topdressing grass pasture or grasses raised for seed production.

(c) Broadcasting and plowing down on heavy soils in areas where fall plowing is a common practice.

We are enthusiastic enough about the possibility of enlarging fall fertilizer business that we plan to continue promotional work along this line.

Says Cotton Growers May Try Gibberellins in 1958

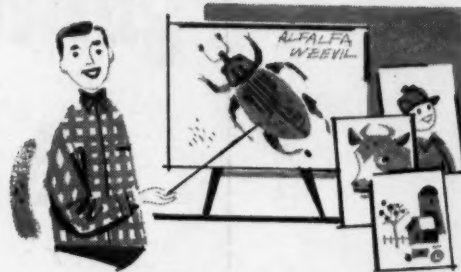
MEMPHIS, TENN.—A prediction that cotton growers will be using gibberellic acid products on parts of their acreage in 1958 has been made by Dr. James M. Merritt, Merck & Co., Rahway, N.J. In an interview at the recent Cotton Production Conference here, Dr. Merritt said that treating seeds with the growth stimulant would give better stands of cotton because of increased and earlier emergence, and that application would bring increased boll set and higher yield.

Dr. Merritt said that several varieties of cotton grown in both the mid-south and western areas have responded favorably to research conducted this year. The ability of these varieties to maintain growth produces a larger plant capable of setting more bolls and longer fiber, he pointed out.

Sign up now for the 1958 HEPTACHLOR INSECTICIDE DEALER PROGRAM



A NEW
CONCEPT
IN
DEALER
SUPPORT!



THE 1958 HEPTACHLOR INSECTICIDE DEALER "SALES-BUILDER" PROGRAM—Insecticides can be one of your most profitable items. This point has been proven conclusively by those dealers who actively promote and sell insecticides.

In the coming year, we would like to prove to many more dealers that insecticides can be real money makers. For 1958, we have taken the best features of previous Heptachlor programs, and added new features, based on information obtained in discussions with farm supply dealers everywhere. The result is a unique and completely new type of dealer program...

INSECT CONTROL REFRESHER COURSE—We have found that most dealers would appreciate more basic information about the use of insecticides. On the other hand many dealers who are experts themselves must work with inexperienced sales people. Thus, the new Heptachlor program will include an informative "salesmen's insect control refresher course." You and your sales people will be provided with information that will enable you to discuss insecticides more freely with customers. Included in the program will be "down to earth" sales techniques that will enable you to sell insecticides with authority and intelligence.

MONTHLY INSECT CONTROL GUIDE SHEET—Each month you will receive an insect control guide sheet, containing information about crop pests common to your area. These sheets will include insect appearance, life habits, damage, and control. They will serve as a continuing textbook.

MONTHLY INSECT CONTROL INFORMATION SERVICE — NEW PROMOTIONAL AIDS—Current insect control information will be provided on a continuing basis through a monthly newsletter. There will also be many profit-making promotional aids. Participating dealers will receive advance copies to stay ahead of competition.

OTHER IMPORTANT FEATURES—By participating in the Heptachlor program, you will receive a free listing in any Velsicol advertising run in your local areas. Your name will also appear on a reference list of dealers that will be sent to farmers who request the name of a source for Heptachlor formulations.

SIGN UP FOR THE 1958 HEPTACHLOR INSECTICIDE PROGRAM NOW — MAIL THIS COUPON TODAY!

VELSICOL CHEMICAL CORPORATION
330 East Grand Avenue, Chicago 11, Illinois

Please sign me up for the 1958 Heptachlor Insecticide Dealer "Sales-Builder" program.

Name _____

Company _____

Address _____

City _____ Zone _____ State _____



VELSICOL

CHEMICAL CORPORATION

330 East Grand Avenue, Chicago 11, Illinois

HEPTACHLOR	CHLORDANE	ENDRIN
PARATHION	METHYL PARATHION	GIBBERELLINS

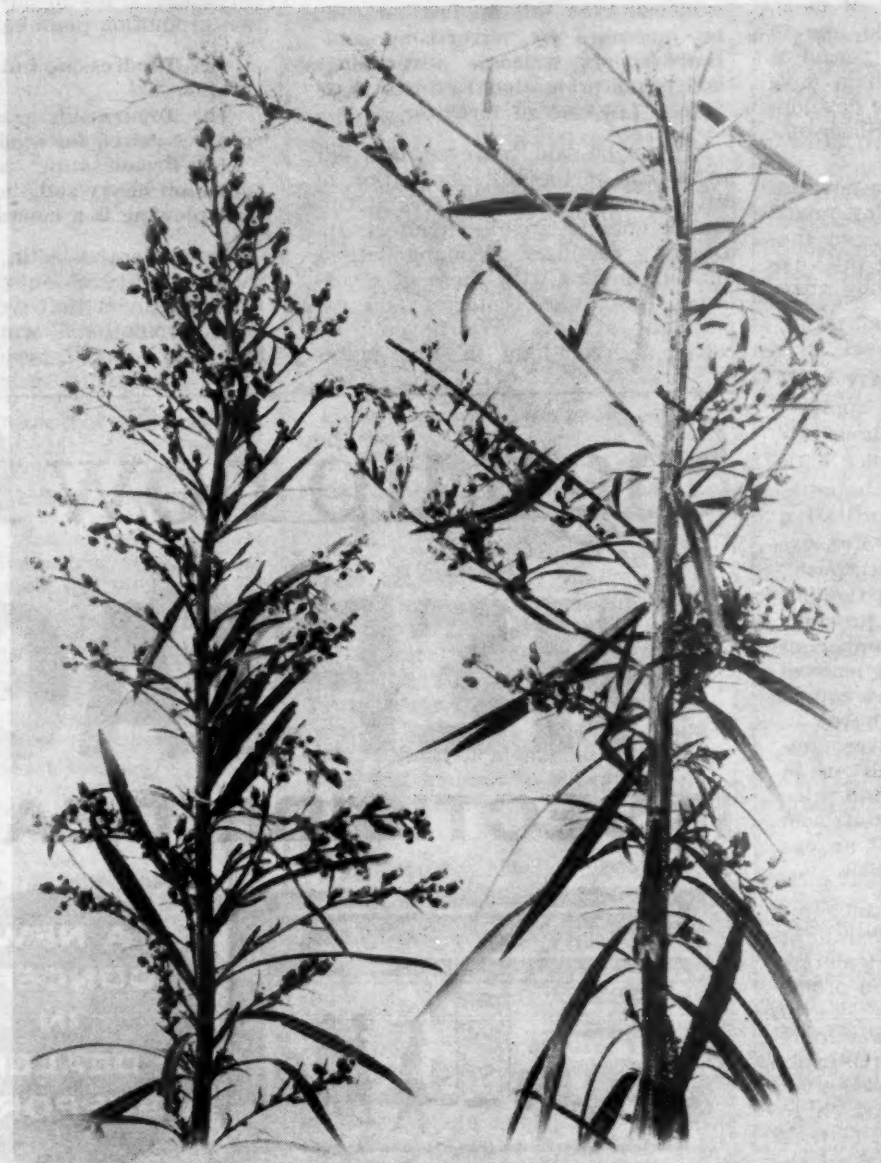


J. C. Denton

WEED OF THE WEEK

Horseweed

(*Erigeron canadensis*)



How to Identify

Horseweed is an erect plant, growing to heights as tall as 6½ ft. They have a fibrous root system, and leaves are alternate, simple, short-petioled, and hairy. Flowers are small, in composite heads, the disk flowers whitish, and the ray flowers are small, hardly larger than the disk flowers. The plant flowers from June to October, and seeds from July to November. Its distribution is general throughout the U.S., an exceptionally common and abundant weed. It takes over abandoned fields quickly, particularly in the summer. Aside from its common name of horseweed, the plant is otherwise known as "Canada Fleabane" and "Mare's-Tail."

Damage Done by Horseweed

This aggressive weed is quick to "take over" pasture lands, crowding out valuable plants and, of course, using water, light, and soil nutrients that could be put to much better use for the furtherance of other crops.

Habits of Horseweed

An annual plant, horseweed is reproduced by seeds. Although it is native to

grassland, it spreads freely to waste places, including roadsides, fields and gardens. A large number of tiny white flowers are produced by each plant, and the flowers form a loose head on the top of the plant. The seeds are slightly curved, and have a number of parachute-like yellowish-brown bristles on one end which allows them to be carried by the wind, thus spreading the plant over much broader areas.

Control of Horseweed

Both chemical herbicides and cultural methods may be employed for control of this weed. In the latter, state authorities have recommended that the plants be mowed when the first flowers appear, thus preventing seeds from being produced. Since horseweed appears largely in pastures, chemical control comes under provisions of Federal Law regarding residue tolerances. Although there are a number of effective chemical compounds available for control of horseweed, their use should be undertaken only after consultation with local authorities.

Illustration of Horseweed furnished Croplife through courtesy of U.S. Department of Agriculture.

FERTILIZER OUTLOOK

(Continued from page 1)

for their use next spring. The increased demand for non-pressure nitrogen solutions has created no small problem for the manufacturers of these materials. There are several new plants going on stream with ammonia-nitrate-urea solutions. However, it will be some time until the effects of this new production are felt in relieving the shortage of solutions. Another problem arises in the inadequate shipping facilities for transporting these materials. During the busy season the shortage of tank cars is often the reason for delayed shipments.

Persons interested in building complete liquid manufacturing plants would be wise to check the sources of raw materials before investing considerable money in equipment and plant locations. As more complete liquid plants are built, the demand for phosphoric acid will be tremendously increased. The increased demand for industrial urea creates quite a problem for the manufacturers of complete liquids. The demand for fertilizer grade urea is seasonal while other industry uses urea throughout the year. Naturally the producers of urea are reluctant to cut industrial sales to satisfy the seasonal fertilizer needs. A shortage of this material could well affect the supply of complete liquids in the near future.

There has been and are being built several new complete liquid plants in the midwest. Farmer acceptance of these non-pressure, labor saving solutions is increasing the demand beyond the producers' expectations. Sales in Indiana almost tripled during the 1956-57 season over the preceding season. However, this increase in tonnage was centered on a few of the well managed plants while other plants showed little, if no increase.

At this time, it looks as though there will be available to most farmers the liquid fertilizers that will be needed during the coming season. The only major problem seems to be in distribution of these materials during the spring rush. It takes a sizable investment in equipment for a dealer of these solutions to be able to serve his customers well. The success of these dealers depends on their ability to finance their operations.

Several manufacturers in the midwest have very good spreading equipment on the market today. Now that a few major equipment manufacturers have entered the field with equipment for applying liquids, the equipment problem has been lessened. Corn planters and grain drills equipped with liquid fertilizer attachments are becoming a common sight in the midwest farming areas.

Regardless of the availability of liquids and liquid equipment, the major factor affecting sales of these materials will hinge on the ability of the liquid dealer to give the customer his best values and the best service he can render. Along with that will be a major problem of economics concerning the customers' ability to pay.

Outlook for Fertilizer Marketing in the East

By J. C. Crissey
G.L.F. Soil-Building Service
Ithaca, N.Y.

The distribution of fertilizer in the Northeast reached a peak in 1953. Since that time, it has gradually eased off to a point where the tonnage was down 8% in 1956. This gradual reduction was due to two things. One, the economics of dairy farming made funds for fertilizer purchases very short. Secondly, the colleges no longer recommend super-

phosphate alone on cropland. The superphosphate tonnage as a straight material has dropped about 75% in five years.

A great deal has been written about the loss of good farmland to highways, commercial building, residential building, etc. This is very true in and between the metropolitan areas of Pennsylvania, New Jersey, New York, and New England.

I believe the farmers left in these areas will still use as much fertilizer. They are next door to their markets and will fertilize more heavily and reclaim land now unused. Furthermore, these new urban areas are in themselves a new huge market for lawn, garden, and specialty fertilizers.

Higher incomes of urban dwellers make a rapidly increasing market for

these specialties. I believe, in these metropolitan areas of the Northeast, there will be a market for just as much or more fertilizer in 1958. However, the manufacturer and distributor must adjust themselves to this new type of market.

In the more rural areas of the Northeast there is still a great untouched potential for increased fertilizer business. This is the management and fertilization of our vast acreage of grassland. This market has never been developed. The colleges have for years taught better grassland management which includes lime, better seed, fertilizer, and managed grazing and harvesting.

Northeast dairymen still do not use one half as much lime annually as should be used. Without lime, fertilization often fails to give results. I am sure suppliers of fertilizers are aware of this potential market for our products. The challenge is the educational job ahead, and it is not an easy one.

I recently went along on a tour

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conducted by Dr. Cunningham of Cornell through the dairy country of Northern New York. These farms had been surveyed by the department of farm management at Cornell for the year 1956. We visited 12 dairymen who were considered above average for their respective areas. The twelve men averaged in 1956 \$97 worth of both lime and fertilizer. Obviously, here is a great potential market. They need education and maybe demonstrations to get them to, first, lime and then fertilize these grasslands for more economical milk production.

I believe we will increase the tonnage of fertilizer in the Northeast in 1958. The milk price structure is improved and the need is there. The fertilizer supply situation is good. There seems to be ample materials available; there is plenty of manufacturing capacity; and prices have increased moderately.

(Continued on page 21)



Be sure you have plenty on hand when your farm customers ask for New, Guaranteed* Free-Flowing Phillips 66 Ammonium Nitrate!

This great new Ammonium Nitrate and consistent advertising support offer you exciting new sales opportunities. Millions of farmers have read about new guaranteed free-flowing Phillips 66 Ammonium Nitrate. They know that an exclusive new Phillips process produces Phillips 66 Ammonium Nitrate with prills that are round, hard, dry and uniform. There's no caking, clogging or bridging in the applicator; and it flows freely to give more even feeding of crops.

Its performance is guaranteed, and performance counts with your customers! You get the full backing of Phillips Petroleum Company in this guarantee of free-flowing performance we offer your customers—

*"New Phillips 66 Ammonium Nitrate is guaranteed to flow freely when stored and applied in a normal manner. If you are not satisfied that it lives up to this guarantee, your fertilizer dealer will replace it at no additional expense to you."

Cash in on the advertising of new Phillips 66 Ammonium Nitrate. Order your supply now.

PHILLIPS PETROLEUM COMPANY

Phillips Chemical Company, a Subsidiary, Bartlesville, Oklahoma

Offices in:

AMARILLO, TEX.—First Nat'l Bank Bldg.
ATLANTA, GA.—1428 West Peachtree St., N.W.
Station "C" P.O. Box 7313
BARTLESVILLE, OKLA.—Adams Bldg.
CHICAGO, ILL.—7 South Dearborn St.
DENVER, COLO.—1375 Kearney St.
DES MOINES, IOWA—6th Floor, Hubbell Bldg.

HOUSTON, TEX.—6910 Fannin St.
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.
KANSAS CITY, MO.—500 West 39th St.
MINNEAPOLIS, MINN.—212 Sixth St. South
NEW YORK, N. Y.—80 Broadway
OMAHA, NEB.—6th Floor, WOW Building
PASADENA, CALIF.—330 Security Bldg.

RALEIGH, N. C.—401 Oberlin Road
SALT LAKE CITY, UTAH—68 South Main
SPOKANE, WASH.—521 East Sprague
ST. LOUIS, MO.—4251 Lindell Blvd.
TAMPA, FLA.—3737 Neptune St.
TULSA, OKLA.—1708 Utica Square
WICHITA, KAN.—501 KFH Building

A companion high nitrogen fertilizer for your quality mixed goods.

Pesticide Sales Keep Pace in 1957, Trade Expects More in '58

WASHINGTON—Farmers used about the same volume of pesticide chemicals in 1957 as in 1956 while volumes of these chemicals used by home gardeners and others increased slightly during the year, the National Agricultural Chemicals Assn. has reported.

The NAC's members comprise manufacturers and formulators of pest control chemicals used in farming, home gardening and lawn care, park and forest maintenance, highway roadside maintenance, and in public health programs designed to eradicate disease-carrying insects and rodents.

Total sales of basic pesticide chemicals are estimated at \$250 million for 1957, it says. This is equal to the record high sales attained in 1956. Approximately 60% of the industry's sales are to farmers, 20% to non-farm users (including home gardeners), and 20% are in exports.

Major market developments for the industry during 1957 included these:

1) Growing interest of foresters in using chemicals in forest conservation. Forest insects and diseases are now killing nine times as much timber as forest fire, causing a critical problem both for the \$20 billion forest products industry and for forest conservationists.

2) Wider use of chemical insect, plant disease and weed control in home gardening and lawn care bolstered by expanding suburbs and increased leisure time for gardening.

3) A steady growth in exports, particularly to underdeveloped areas of Asia and Africa where improved pest control is the key to increasing food production and to improving public health through control of disease-carrying mosquitoes, fleas, and rats.

4) Growing importance of aerial application of pesticide chemicals in agriculture and in forest maintenance. More than 7,500 airplanes flew an estimated 1,000,000 hours in aerial application in 1957 compared with 700,000 hours flown for this purpose in 1951.

5) Small but steady increases in the relatively new uses of pesticide chemicals to a) protect elm trees against damage from Dutch elm disease, b) control brush, weeds and noxious plants along highway roadsides, and c) protection of park visitors through control of tormenting insects and injurious plants such as poison ivy in public parks.

Following are some observations made by spokesmen for NAC member companies, covering significant developments of 1957 and in some cases peering ahead into the seasons ahead.

Eli Lilly & Co., Indianapolis, reports that it continued its expansion projects into the agricultural market in 1957. It says that sales of its growth stimulant product "Stilbosol" continued upward, and an estimated 80% of all cattle fed now receive this product. It is expected to become part of the diet of other types of livestock next year.

The company is expanding its agricultural research program with construction of a \$4 million agricultural research center comprising 14 buildings to be completed in 1958. Entomology, plant pathology, insecticides, and veterinary products are to be included in the company's output.

J. R. Hile, insecticide division of Acme Quality Paints, Inc., Detroit, Mich., comments on the increasing importance of the garden chemical trade.

"The move of millions to new sub-

urban homes has sparked a fast-growing interest in gardening and lawn care," he observes. "This has created an important new need for more effective garden chemicals, and better, easier ways of applying them. Manufacturers have responded with new insecticides, fungicides and weed killers. Now, home-owners the country over are controlling pests and weeds with modern chemicals, conveniently packaged, that take far less time and work to use, and do a far more complete job in the bargain. Lawn and garden care gets easier every year—thanks to recently introduced products like these.

"The new sprays come in handy 1-pint bottles capped with ready-to-use plastic nozzles for hose attachment. Products available include: flower and shrub spray, lawn insect killer, crabgrass killer and red spider spray.

"Now, home gardeners buy dust and duster in one package. Self-applying packages like the pump gun duster or plastic squeeze duster for insecticides and fungicides give fine control for roses, other flowers and ornamentals at a minimum outlay for material and applicator.

"In spite of increase in use, the potential demand for garden chemicals is still many times greater. Too many still dig weeds, pinch off diseased leaves and knock off insects, without realizing the miracles of modern chemicals. The industry, through spraying and dusting guides, educational booklets and informative advertising is constantly bringing to the attention of the public the increased pleasure and satisfaction in gardening and outdoor living through modern pest controls."

California Spray-Chemical Corp., Richmond, Cal., observed its fiftieth anniversary in 1957. It was a busy year, as indicated in its report:

"Highlight of the accomplishments during the year was the completion of a \$1,500,000 plant near Marseilles, France, to produce 'Orthocide' (captan), a fungicide for the grape growers of southern Europe and Africa.

"With the construction of the captan plant, Calspray's French subsidiary, California Spray-Chemical Compagnie Francaise, S.A., has been converted to a 'Societe Anonyme' with capitalization of 265 million francs. Production capacity of the new plant is from 10 to 15 million pounds a year.

"In the U.S., Calspray's 'localized service' program has been expanded to include a new granular product plant and warehouse in Omaha, Neb.; a district office and warehouse in Salt Lake City, Utah; warehouses in Hart and Benton Harbor, Mich.; Poughkeepsie, N.Y.; Casa Grande, Ariz.; Dundee, Fla.; McAllen, Texas;

and Stockton, Cal.; dust mills in Blythe, Cal., and McAllen, Texas, bringing the total number of formulating plants in this country, Canada, Mexico and Puerto Rico to 50, the number of branch offices here and abroad to 69."

John O. Logan, vice president and general manager of the industrial chemicals division of Olin Mathieson Chemical Corp. predicts a five percent dollar sales rise for chemicals and allied products in 1958.

In a recent address he reported dollar sales of chemicals and allied products for the first half of 1957 were about 4% ahead of 1956.

"If industry expectations are met during the second half," he added, "sales for the year will reach \$25 billion, a continuation of new yearly highs set by chemicals since 1937 with the exception of two years—1949 and 1952.

"The prospect for an extension of this uptrend into 1958 is good. I do not look for anything sensational, such as the 18% jump from 1954 to 1955, but I think the gradual increase that has been underway since then will continue," Mr. Logan explained.

Mr. Logan cited five reasons for his 1958 sales forecast:

1. General business appears headed for a plateau in 1958.

2. Customer inventories of chemicals and allied products are currently at a low level.

3. Certain industries, which have slumped for the past year or so, show some signs of a moderate recovery in 1958.

4. The chemical industry's record capital expenditures of the past two years should be a stimulus to sales and to the development of new markets.

5. An increase in chemical prices is anticipated in 1958 which will contribute to higher dollar income.

Mr. Logan also expressed the opinion that new plant capacity would put a "forced draft" behind development of new uses and markets for chemicals.

"I am certain," he stated, "that there is more emphasis being placed on sales development and the commercialization of research results in 1957 than ever before, and that this emphasis probably will be increased further in 1958."

American Smelting and Refining Co., New York, takes an optimistic look at the new year, stating that use of arsenic in many useful forms is on the increase not only for insect control but in other ways, including its application as a crabgrass killer.

"To find even more applications for this element, the arsenic industry has stepped up its research," the company says. "Today special programs are being conducted at land-grant colleges and experiment stations throughout the United States. This research encompasses fields such as animal husbandry, forestry, insect control, soil fertilization, weed and grass control (including aquatic weed control) and slime control.

"These experiments in the field of organic and inorganic arsenicals will prove profitable to both agriculture and industry in the future," it concludes.



J. C. Bauman

SALES MANAGER—J. C. Bauman, a member of Union Bag-Camp Paper Corp. since 1950, has been appointed as western district manager of multi-wall bag sales. He previously served as a multiwall bag sales representative for the firm, and will now headquarter in the company's Chicago office.

Cotton Council Meeting Scheduled for January

PHOENIX, ARIZ.—Promotional activities aimed at increasing sales of cotton and cottonseed products will be described in detail at the 20th annual meeting of the National Cotton Council here, Jan. 13-14.

The parts played by various programs in keeping cotton competitive in such highly important markets as apparel and household furnishings will be described in reports of the committee on sales promotion.

Campaigns in behalf of industrial markets will be studied in detail by the committee. Plans and recommendations for sales promotion in 1958 will be made. W. B. Coberly, Jr., of Los Angeles, is chairman of the sales promotion committee of the council.

Mouse Damage to Crops Runs Into Millions

PORTLAND, ORE.—The rodent rampage in southern Oregon has brought as many as 10,000 mice to an acre in some sections, it was reported here recently at a meeting of federal and state health, agricultural and wildlife officials, called to consider the mouse menace.

Dr. William Jellison and Dr. J. F. Bell of the U.S. Health Service Rocky Mountain laboratory at Hamilton, Mont., have isolated tularemia in some mice taken from the infested area. Agricultural agents have estimated crop damage in the millions of dollars—about \$3,000,000 alone in Klamath County.

Melvin Smith, of the U.S. fish and wildlife service, said that wheat treated with zinc phosphate is being made available through county agents at cost, but he said that heavy vegetation keeps some aerial application of the grain from reaching the ground. The only remedy for this would be to burn or otherwise remove ground cover.

OLIN MATHIESON NAMES TWO
NEW YORK — Olin Mathieson Chemical Corp. has announced two appointments on executive levels. Dr. W. E. Hanford has been named vice president for research and Richard M. Furlaud general counsel. Dr. Hanford was formerly associated with M. W. Kellogg Co., General Aniline & Film Corp. and E. I. duPont de Nemours & Co. Mr. Furlaud joined Olin Mathieson in 1955 as an attorney and was later made assistant to the president.

Industry Leaders See Introduction of New Products, Better Price Picture and Possibility of Broader Market Base in In Developing Non-Agricultural Sales

AMONG OTHER CONSIDERATIONS . . .

Dating Pesticide Packages May Be Topic of Legislative Discussion in '58 Sessions

By A. B. Heagy

President, Association of American Pesticide Control Officials
College Park, Md.

In making a preview of the outlook for changes in state regulations covering pesticides from the viewpoint of the control official, it is difficult to ascertain whether certain perennial problems involved will be resolved through the medium of new regulations, expanded requirements, or revised statutes. There is evidence that some will eventually result in new provisions and even legislation, if proposals already made should be adopted.

Most prominent in this category at present are plant growth regulators, fertilizer-pesticide mixtures, coloring treated seed, and the dating of products of unstable nature by their manufacturers.

Just prior to the annual meeting of the Association of American Pesticide Control Officials in Washington, considerable attention was directed toward gibberellic acid and similar plant growth regulants. At this time there was a decided division of opinion among control officials and industry representatives as to the proper category for these products. Should they be classed as fertilizers or pesticides, or should an entirely new division be established?

This question was not resolved before or during the meeting, and will not be decided here. However, leaders of the fertilizer and pesticide groups agreed to the formation of a committee of R. Z. Rollins, California; E. A. Epps, Jr., Louisiana; B. D. Cloaninger, South Carolina; Rodney C. Berry, Virginia; Clyde A. Bower, Oklahoma; and the writer as chairman, to study the question in cooperation with industry representatives. It is the objective of this committee to formulate an acceptable recommendation covering uniform procedure to be followed on a national scale. An exploratory meeting is planned soon after the first of the year.

In 1953 a committee was appointed to investigate the practice of diverting treated seed or grain into feed and food channels. At this early date it was established that some means of coloring treated seed was necessary to protect the public from this potential danger and health hazard. According to our investigator's report, several significant shipments were encountered during the past year. The problem of treated seed is of such magnitude in the interest of public welfare that some form of regulation will most probably result.

Among other possibilities, consideration has been given to applying the provision in the uniform act which authorizes the control official to determine standards of coloring or discoloring pesticides. It is fairly well accepted that this provision was intended only to deter the purchaser from inadvertently using toxic materials for staple foods, and not to cover the application of color to the material on which the pesticide has been sprayed.

Marked attention has been given a requirement to make it mandatory for manufacturers to date or code unstable pesticides. There have been bills introduced in some state legislatures in the past, but for various reasons none has been adopted. This does not represent a new idea, as many individual control officials have for a number of years attempted to interest manufacturers in dating those of their products which tend to lose strength on storage. It would appear from the interest being shown by some states that this will be intro-

duced as additional language in the law rather than as a regulation.

Perhaps the greatest change in regulations will be noted in the fertilizer-pesticide phase of control activity. During the past year six states either relaxed their regulations toward expanded acceptance or permitted use of these materials. This follows a trend reported by the investigator in the last three-year period.

Unfortunately because of prevailing local conditions little uniformity

from state to state has thus far been attained. Differences exist in the method of handling "mixed to order" or "customer mixes" and the recognition of the need for such commodities. As research work progresses on the state level, more widespread acceptance will probably bring about more regulations to cover packaging and residue tolerances.

EQUIPMENT FIRM TO MOVE

SEATTLE, WASH.—The Polson Equipment Co., Pacific Northwest wholesale farm, garden equipment, sprinkler systems and pump distributor, has leased the Mill and Mine Supply Co. building here, from Albert Gillespie. Robert L. Kummer, president and general manager of the Polson firm, said his company will move into the modern location shortly after Jan. 1. Polson has occupied its present office and supply warehouse since 1911. The move will integrate the company's office, warehouse and service facilities at one location.

Bemis Bro. Promotes

F. H. Hammond, Jr.

ST. LOUIS—Fred H. Hammond, Jr., of the Bemis Bro. Bag Co., has been appointed assistant manager of the company's cotton mill in Bemis, Tenn. Announcement of the appointment was made by F. J. Young, Jr., manager.

Mr. Hammond joined Bemis in 1936 and, with the exception of an assignment in the company's general engineering department in St. Louis, his activities have been concentrated at company mills in Bemiston, Ala. and Bemis, Tenn. His duties have been in the areas of cost control, textile engineering, production scheduling and labor relations. He has served as assistant to the manager of the Bemis Cotton Mill since 1956.

Prior to joining Bemis, Mr. Hammond attended Lambuth College, and received his bachelor of arts degree from Vanderbilt University.

Now! More Technical Field Service from Du Pont



JOHN SPICER, JR., technical specialist for the southeastern states, with headquarters in Goldsboro, N. C.



OVE F. JENSEN will serve manufacturers in the midwestern states, with headquarters in Maple City, Michigan.



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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

FERTILIZER CONSUMPTION

(Continued from page 1)

prising the South Atlantic, East South Central and West South Central regions—while the Pacific and West North Central regions accounted for most of the increase.

There was little change in the total tonnage of fertilizer consumed in the East North Central and Middle Atlantic regions; in these more fertilizer was used in all but 5 of the 12 areas. Most of the states in the New England and Mountain regions, and the territories, showed relatively large proportional increases in total fertilizer consumption.

The consumption of mixed fertilizers was found to have increased in all but 23 of the tabulated areas. Most of the decrease occurred in states of the South Atlantic, East South Central, East North Central and West South Central regions. Areas in which the principal increases occurred were the territories, and the Pacific and West North Central regions, in this order.

The ten grades consumed in largest tonnage in the continental U.S. in 1955-56 were also found to be consumed in largest tonnage in 1956-57. These ten represent 50% of the tonnage of all mixtures consumed in both years. In all regions except the New England, Mountain and Pacific, their tonnage represents 40% or better of the total tonnage of mixtures consumed in the respective regions. The trend in New England is to use grades having a higher proportion of nitrogen while those in the Mountain and Pacific regions generally contain less potash than shown by the average of these ten grades.

In all but 15 of the tabulated areas the consumption of materials for direct application was higher than in 1955-56. Areas showing decreases were not necessarily the same as those in which mixtures were also found to have decreased. In nine states, however, there were decreases in both mixtures and materials. Five were in the South Atlantic and West South Central regions.

The use of chemical nitrogen materials compared with 1955-56 increased 392,000 tons (12%) and potash materials 52,000 tons (13%), while the use of phosphate materials and the natural organic materials decreased 108,000 tons (4%), and 8,000 tons (2%), respectively.

Of the liquid types of chemical nitrogen materials, the use of nitrogen solutions showed the highest proportional increase (87%) from 109,000 tons in 1954-55 and 1955-56 to 204,000 tons in 1956-57. Their use more than doubled in most regions except the Middle Atlantic and Pacific regions. In these their use decreased.

Aqua ammonia and anhydrous ammonia use increased 21 and 12%, respectively. While the use of aqua ammonia is principally in the Pacific region and the territories, that of anhydrous is in all regions. Consumption was generally 7 to 30% higher in all regions except the East North Central and territories where decreases were noted.

Solid chemical nitrogen products showed greatest consumption changes in ammonium sulfate, urea and ammonium nitrate with increases of 25, 16 and 15%, respectively. Sodium nitrate use decreased 11%.

The principal change in the use of natural organic materials was a decrease of 22,000 tons (16%) in the total consumption of sewage sludges.

The use of the principal kinds of phosphate materials, in general, showed decreases, except for the ammonium phosphates (11-48, 11-50, 13-39, 16-20, 20-52, 21-53, 27-14) which increased from 362,153 tons in 1955-56 to 387,000 tons in 1956-57 (7%). The largest decrease was in the total of phosphate rock and colloidal phos-

phate—from 930,914 tons to 829,000 tons (11%), while superphosphates, 22% and under, and superphosphates, over 22%, decreased 7 and 14%, respectively.

The change in consumption of the potash materials was principally the result of a greater use of potassium chloride which increased from 322,411 tons to 373,000 tons (16%).

The total quantity of primary plant nutrients (N, available P₂O₅, K₂O) estimated in all fertilizers consumed in the United States and territories was 6,303,000 tons. This was 248,000 tons (4.1%) more than in 1955-56. The total for 1956-57 comprised 2,125,000 tons of nitrogen, 2,243,000 tons of available P₂O₅ and 1,935,000 tons of K₂O. These quantities represent increases of 192,000 tons (9.9%) for nitrogen and 60,000 tons (3.2%) for K₂O and a decrease of 4,000 tons (0.2%) for available P₂O₅ from the respective consumptions in 1955-56.

Although the total of fertilizers bearing primary plant nutrients in 1956-57 was but 21,531,000 tons—1,004,000 tons below the peak year of record (1952-53)—the total nutrient content of this lower tonnage of fertilizers contained 657,000 tons more plant nutrients than the larger tonnage in 1952-53.

In contrast to the change in consumption of fertilizers bearing plant nutrients in 1956-57 compared with 1955-56, the total consumption of nutrients increased 2 to 18% in all regions and the territories, except the South Atlantic. The 3% decrease in the South Atlantic region is the same as the percentage decrease in use of fertilizers in this region.

The total consumption of primary plant nutrients supplied by mixed fertilizers is estimated to have been 4,296,000 tons, comprising 841,000 tons of nitrogen, 1,772,000 tons of available P₂O₅ and 1,683,000 tons of K₂O. These quantities represent 44,000 tons (5.5%) more nitrogen, 28,000 tons (1.7%) more K₂O, and 13,000 tons (0.7%) less available P₂O₅ than was used in 1955-56.

Materials used for direct application supplied 1,284,000 tons of nitrogen, 471,000 tons of available P₂O₅ and 252,000 tons of K₂O, representing increases of 148,000 tons (13.0%) for nitrogen, 9,000 tons (1.9%) for available P₂O₅, and 32,000 tons (14.5%) for K₂O as compared with 1955-56.

The trend to mixed fertilizers having relatively lower available P₂O₅

content has caused an annual decrease in the national consumption of available P₂O₅ since 1954-55 in spite of the increased use of higher analysis phosphate bearing materials.

The increase in tonnage of plant

nutrients was highest in the West North Central and East North Central regions. Their combined tonnage showed an increase for nitrogen, 89,000 tons; available P₂O₅, 26,000 tons; and K₂O, 49,000 tons.

1956-57 Fertilizer Consumption, Preliminary¹

State & Region	Mixtures 1,000 tons	Materials ^{2/} 1,000 tons	Total 1,000 tons	Change from 1955-56/ Percent
Maine	160	8	168	- 8
New Hampshire	16	4	20	21
Vermont	38	17	55	10
Massachusetts	69	18	87	17
Rhode Island	15	2	17	13
Connecticut	63	21	84	10
New England	361	70	431	4
New York	503	82	585	2
New Jersey	253	24	277	6
Pennsylvania	565	61	626	- 4
Delaware	83	5	88	2
District of Columbia	2	1	3	- 1
Maryland	269	18	287	- 2
West Virginia	72	10	82	4
Middle Atlantic	1,747	201	1,948	4
Virginia	668	102	770	- 1
North Carolina	1,141	316	1,457	-14
South Carolina	566	252	818	- 5
Georgia	1,051	222	1,273	- 1
Florida	1,315	161	1,476	10
South Atlantic	4,741	1,053	5,794	- 3
Ohio	950	82	1,032	- 2
Indiana	877	210	1,087	2
Illinois	505	850	1,355	- 4
Michigan	576	58	634	1
Wisconsin	389	37	426	3
East North Central	3,297	1,237	4,534	4
Minnesota	325	91	416	13
Iowa	304	158	462	3
Missouri	442	360	802	- 1
North Dakota	27	66	93	34
South Dakota	9	13	22	-16
Nebraska	23	145	168	26
Kansas	76	127	203	- 2
West North Central	1,206	960	2,166	5
Kentucky	442	100	542	1
Tennessee	400	136	536	4
Alabama	750	283	1,033	- 6
Mississippi	301	443	744	- 1
East South Central	1,893	962	2,855	- 2
Arkansas	140	186	326	-10
Louisiana	157	138	295	- 3
Oklahoma	61	46	107	-21
Texas	274	321	595	5
West South Central	632	691	1,323	- 3
Montana	4	26	30	- 8
Idaho	7	77	84	29
Wyoming	1	10	11	3
Colorado	13	47	60	8
New Mexico	1	36	37	28
Arizona	26	146	172	13
Utah	3	23	26	-15
Nevada	1	6	7	30
Mountain	56	371	427	12
Washington	37	147	184	7
Oregon	29	189	218	31
California	282	5/ 1,846	2,128	6
Pacific	348	2,182	2,530	9
Continental U. S.	14,261	7,727	22,008	4
Hawaii	66	123	189	14
Puerto Rico	228	60	288	24
Territories	294	183	477	20
Total: 1956-57	14,575	6/ 7,910	22,485	1
1955-56	14,776	5/ 7,417	22,193	0
1954-55	15,348	5/ 7,378	22,726	2

^{1/} Includes fertilizers distributed by Government agencies.

^{2/} Includes: ground phosphate rock and colloidal phosphate, basic slag, secondary and trace nutrient materials, as borax, metallic salts, sulfur, gypsum, etc. used as separate materials. Does not include liming materials or the quantity of materials used for manufacture of commercial mixtures.

^{3/} Based on fertilizers which are guaranteed to contain one or more of the primary plant nutrients (N, P₂O₅, K₂O) for direct comparison with percent change in nutrient consumption (Table 4).

^{4/} Less than 0.5 percent.

^{5/} Includes an estimated 250,000 tons of dried manures.

^{6/} Materials included not guaranteed to contain N, P₂O₅, or K₂O totaled 929,000 tons in 1956-57, 789,605 tons in 1955-56, and 791,606 tons in 1954-55.

Principal Classes Used by Regions, in 1,000 Tons¹

Class	New England	Middle Atlantic	South Atlantic	East North Central	West North Central	East South Central	West South Central	Mountain	Pacific	Territories	Total
MIXTURES	361	1,747	4,741	3,297	1,206	1,893	632	56	348	294	14,575
CHEMICAL NITROGEN MATERIALS	12	57	740	307	376	618	412	190	807	144	3,664
Ammonia, anhydrous	---	2	19	35	97	75	106	33	100	1	468
Ammonia, aqua	---	---	---	---	---	---	---	---	---	---	375
Ammonium nitrate ^{2/}	7	24	105	124	213	329	141	42	290	66	1,081
Ammonium sulfate	2/	5	6	92	4	7	76	57	208	62	518
Nitrogen solutions	2/	3	70	39	52	9	18	2	10	0	204
Sodium nitrate	1	10	273	1	---	149	48	2/	2/	2/	484
Urea	1	3	5	14	7	---	14	21	27	15	107
Other ^{4/}	2	10	260	2	1	50	7	18	77	2/	427
NATURAL ORGANIC MATERIALS	24	40	19	36	8	2	8	11	319	1	465
Dried manures	4	16	3	6	1	1	2	10	251	1	293
Sewage sludge, all	6	14	6	23	2	2/	3	1	60	---	115
Tankage, all	3	9	3	---	---	---	0	---	2	0	17
Other ^{4/}	11	2	6	7	5	1	3	2/	7	0	41
PHOSPHATE MATERIALS	32	91	114	702	527	269	228	142	247	18	2,370
Ammonium phosphates ^{2/}	0	1	1	9	110	1	84	54	125	2	387
Basic slag	0	0	23	0	0	136	3	0	0	0	162
Phosphate rock & colloidal phosphate	2/	7	28	548	211	17	12	0	7	4	829
Superphosphate: 22% and under	2/	30	79	68	50	98	79	22	72	7	566
Over 22%	2/	2/	2/	64	140	2	46	---	24	5	282
Other ^{4/}	2	4	5	14	15	15	3	65	20	1	144
POTASH MATERIALS	2	7	85	179	43	71	38	3	12	18	457
Potassium chloride	2	4	39	174	42	53	38	1	6	15	373
Other ^{4/}	1	3	46	4	1	18	1	2	6	2	84
PRIMARY NUTRIENT FERTILIZERS	430	1,943	5,698	4,521	2,160	2,852	1,318	401	1,734	474	21,531
SECONDARY & TRACE NUTRIENT MATERIALS	2/	5	95	1	2	2	3	26	792	3	929
Gypsum	---	---	91	---	2	2/	2/	20	758	0	871
Other ^{4/}	2/	5	4	1	2/	2	2/	6	34	3	58
NOT CLASSIFIED	2/	0	1	12	4	1	2	0	4	2/	25
ALL FERTILIZERS	431	1,948	5,794	4,534	2,166	2,855	1,323	427	2,530	477	22,485

^{1/} Due to rounding, totals of items may not add to column or class totals.

^{2/} Less than 500 tons.

^{3/} Minor quantities may have been used for other purposes than fertilizer.

^{4/} Includes quantities undesignated by kind.

^{5/} Includes all grades: 11-48, 11-50, 13-39, 16-20, 20-52, 21-53, and 27-14 reported either as mixtures or materials.

Regional Use of Principal Mixed Grades, 1956-57

Region	1,000 tons											Percent of Regional Total
	5-10-10	3-12-12	4-12-12	5-20-20	10-10-10	12-12-12	5-10-5	4-16-16	3-9-9	4-10-7	Total	
New England	48	1/	---	---	43	4	4	---	---	---	99	28
Middle Atlantic	642	30	18	1	161	16	173	1	1/	---	1,042	60
South Atlantic	504	80	666	1	51	3	134	1/	510	44	1,993	42
East North Central	109	681	5	562	299	328	12	491	1/	---	2,488	75
West North Central	1	52	1/	199	59	209	5	29	---	---	554	46
East South Central	39	49	193	12	40	12	89	7	1/	320	762	40
West South Central	8	20	1/	13	4	39	170	---	---	---	254	40
Mountain	1/	---	---	1/	2	1	1/	---	---	---	3	6
Pacific	4	---	---	---	26	1/	1/	---	---	---	30	9
Total	1,355	912	882	788	685	612	588	528	511	364	7,225	50

1/ Less than 500 tons.

Primary Plant Nutrient Consumption, 1,000 Tons

Region ^{1/}	Content of mixtures				Content of all fertilizers ^{2/}				Percent change in all nutrients from 1955-56
	Nitrogen	Available P ₂ O ₅	K ₂ O	Total	Nitrogen	Available P ₂ O ₅ ^{3/}	K ₂ O	Total	
New England	25	42	43	110	30	49	45	124	5
Middle Atlantic	99	207	197	503	118	225	200	543	4
South Atlantic	208	425	452	1,085	382	442	481	1,305	3
East North Central	203	504	504	1,211	316	576	613	1,505	6
West North Central	91	221	170	482	282	348	196	826	11
East South Central	89	214	196	499	300	258	232	790	3
West South Central	49	92	64	205	234	156	87	477	2
Mountain	7	10	2	19	87	60	4	151	11
Pacific	35	38	22	95	307	105	34	446	7
Continental U. S. Territories	806	1,753	1,650	4,209	2,056	2,219	1,892	6,167	4
Total: 1956-57	35	19	33	87	69	24	43	136	18
1955-56	841	1,772	1,683	4,296	2,125	2,243	1,935	6,303	4
1954-55	797	1,785	1,655	4,237	1,933	2,247	1,875	6,055	0
	804	1,821	1,658	4,283	1,960	2,284	1,875	6,119	- 1

1/ The States comprising the regions are listed in Table 1.

2/ Content of mixtures and direct application materials.

3/ Includes, as available P₂O₅, 2 percent of the colloidal phosphate and 3 percent of the phosphate rock marketed for direct application.

USDA RESEARCH

(Continued from page 1)

showed immunity to five collections of headsmut fungus in federal-state field trials in Mississippi.

USDA weed-control specialist found two new herbicides—4(2,4-DB) and 4(MCPB)—promising for post-emergence control of weeds in underseeded legumes. Simazin and EPTC, two other experimental weed-killers, produced good results as selective pre-emergence treatments, with the former appearing especially effective for pre-emergence control of weeds in corn. EPTC showed promise for controlling weeds in alfalfa, white and red clover, birdsfoot trefoil, soybeans, peanuts, corn, and other crops.

Effectiveness of insect attractants, many of them devised by USDA research, was demonstrated in the campaign to eradicate the Mediterranean fruit fly from Florida. Attractants are used to lure insects into traps to determine their presence and to check on the progress of control and eradication efforts. Attractant chemicals can also be employed to induce insects to eat materials treated with insecticides.

USDA chemists and entomologists are seeking and testing a variety of natural and synthetic attractants, which promise great help in the war against insect enemies.

The year saw further progress in the development and testing of systemic insecticides. A compound designed as "Bayer 21/119," still under development, appears effective for combating grub infestations in cattle and as a deterrent to screwworm at-

tacks in both cattle and sheep. Manufacturers of another new systemic—"Dow ET-57"—were granted conditional approval by USDA and the Food and Drug Administration to provide for limited use of the chemical for cattle-grub control in several midwestern states.

New Phosphate Firm Opens Plant in Texas

VICTORIA, TEXAS — After three years of marketing research and plant construction, Victoria Chemical Corp., held its formal opening here recently. The plant, a locally-owned, independent operation, will concentrate on the production of phosphates, according to S. E. Horne, one of three partners.

The other partners are R. P. Adams and F. W. Buck.

Mr. Horne estimates that there is a market for 15,000 to 20,000 tons of phosphates for fertilizer usage within a radius of 300 miles of the plant. Present plant capacity is 2,000 tons of sodium-phosphates annually, and this entire production has been sold in advance to three chemical distributors, Mr. Horne said.

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The national weighted average of the primary plant nutrients contained in mixed fertilizers as shown by this preliminary analysis in 1956-57 was for nitrogen, 5.77%; for available P₂O₅, 12.16%; for K₂O, 11.55%; and for the total of these nutrients, 29.48%. The corresponding values in the preceding year were 5.39, 12.08, 11.20, and 28.67%. The proportionate increase was highest for nitrogen and lowest for P₂O₅.

FERTILIZERS 1958

(Continued from page 17)

The weather I cannot predict, but, being an optimist, I believe we will have a better season for the whole area than has prevailed during the past several years.

There is one development which is not new, but it has been creeping up on us for the past four to six years. Farms are getting larger. Five years ago, John Doe used 25 tons of fertilizer. Since then he has increased his land holdings by 50% and has doubled or more his fertilizer applications. He is now a 100 ton user and he calls the tune. We must devise programs that will satisfy these customers.

"About the Same" Demand For Phosphate Seen in '58

By Myron M. Keim

Agronomist, Virginia-Carolina Chemical Corp., Richmond, Va.

The demand for phosphatic fertilizer in 1958 is not expected to differ appreciably from the preceding year. It is believed that higher freight rates and other costs associated with handling and storing fertilizer are factors that will continue the trend toward higher analysis mixed fertilizers. This trend has created a shift toward the production and use of increased quantities of concentrated superphosphate, with a corresponding decrease in the production of ordinary superphosphate. Thus, shipments of rock phosphate for the manufacture of ordinary superphosphate have decreased, but additional rock is being utilized in the production of concentrated superphosphate.

No apparent shortage is indicated in 1958 for either rock phosphate, ordinary superphosphate, or concentrated superphosphate.

A comparatively small increase in total plant food use is foreseen for 1958, but it is probable that the consumption of available phosphate (P₂O₅) will not be materially different than in 1957. This, of course, is dependent upon many factors including the governmental agricultural program which is not clearly defined at this time.

There have been a small number of new sources of liquid phosphoric acid that have come on stream, and this increased tonnage has found its way into the production of Mixed Fertilizers, both liquids and granular high analyses. It is anticipated that this trend will continue into 1958.

Certain areas are showing an increase in use of phosphate rock for direct application, whereas in other areas where this material is used, the consumption appears to be about the same or slightly less. There is little reason to expect the use of phosphate rock for direct application to change appreciably compared to 1957.

In view of the fact that our corporation is not producing the so-called other phosphatic fertilizers such as ammonium phosphates, metaphosphates, etc., it is for that reason that we do not feel in a position to comment on the outlook for these materials.

GRACE POLYETHYLENE PLANT
NEW YORK—W. R. Grace & Co.'s Polymer Chemicals Division announced Dec. 2 that its high density polyethylene plant in Baton Rouge, La. has completed its first two weeks of successful operation.

Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

PEERING AHEAD . . .

Industry Leaders See Better Year in 1958

Looking ahead into a new business year is always done with quite a few misgivings, particularly during these days of uncertainty. Nevertheless, the industry people who have braved the future to tell what they see through the mists of coming months have done the trade a distinct favor. In this issue, Croplife is happy to present some of the thinking of leaders in both the pesticide and fertilizer industries in different parts of the country. We hope that these observations will prove helpful, and the optimistic predictions true.

It would be understandable if people in the trade would hesitate to present their "guesstimates", since there is always an element of hazard in doing so. Our readers will no doubt agree wholeheartedly that the numerous authors of these observations are sound in their approach and their viewpoints accurate.

The problems of 1957 are not likely to disappear in the coming year, nor are they likely to become more burdensome. Many of the writers see the possibility of a more firm price structure, and several have indicated that such is the best hope for a successful season ahead. One observer made an astute comment that too much time and effort are being spent in competing merely for a chunk of the existing market, whereas there remain vast areas of potential business that could be uncovered with a little study.

Only a relatively few farmers are taking full advantage of the chemical products available. Thus it seems odd that the industry, instead of going after the logical prospects among the current non-user group, too often engages in a price-cutting battle for orders from existing users, so that the "winner" makes such a low margin that his effort might have been spent more profitably elsewhere.

Along this line, another pesticide maker predicts that more farmers will use agricultural chemicals in 1958. "The continued spread of information on the benefits to be achieved through the proper use of chemicals in agriculture will result in more farmers taking advantage of this added tool for efficient agricultural production," he added.

This thought was also brought out in the comments: "We don't believe that farmers are too concerned about the price of materials. Too much has been said about the price per pound when the emphasis should be placed on the price of doing an effective job, regardless of the unit price for certain materials." There is much to be done in this area, all right.

The Miller Amendment is referred to either directly or indirectly as a factor in the pesticide industry. One writer says "the farmer, the food industry and the chemical industry are all learning to live with the Miller Bill and order is gradually coming out of chaos with respect to the proper application of chemicals in agriculture and the residue tolerance requirements." Others merely included it obliquely in references to the complexity of doing business.

Fertilizer industry commentators also had some interesting observations to make. The transportation outlook for next year is described as "chaotic," with the railroads being torn between a desire to raise freight rates and fear that if they do, substantial tonnages of fertilizer materials may be diverted to other means of hauling. The chances are, however, that the rates will climb somewhat. This may not be true in all parts of the country, since some railroads realize that the fertilizer industry

has gone about as far as it is going to go in paying additional tariffs.

A spokesman for the liquid nitrogen industry declares that demand may catch up with supply this year, and an optimistic picture is drawn in this field.

An optimistic view is taken of fertilizer consumption on the west coast, with the observer indicating that an increase of roughly 5% a year may be expected to continue as it has for some time now. Even with the increases, the potential remains great, he adds.

Mixtures of fertilizers and pesticides are also on the increase, which will probably mean added sales on both fronts. While many were reluctant to get into the business because of possible hazards, demand for such products is so strong that the mixtures are being supplied by an ever-widening group of fertilizer manufacturers.

New areas of questions surrounding chemical products such as gibberellic acid compounds are due for closer scrutiny by state and federal control officials, it is indicated. These products, along with others as yet unclassified as to whether they will be "pesticides" or not, will be studied diligently in 1958. This will help to unravel a considerable amount of uncertainty on the part of a number of manufacturers in these fields.

After all, the new year will reveal its own secrets in its own good time. But we are grateful to these men in the trade who have given us the benefit of their knowledge and years of experience. It will make the new year more interesting, and the trade can face it with more boldness than might otherwise be the case.

Weeds Defined As "Successful Competitors"

Weeds, the subject discussed at many meetings around the country the elimination of which is the objective of much back-breaking labor and scientific study, are practically everywhere. Their presence is almost as universal as air and sunshine, and their adaptability and tenacity is proverbial.

Well-known as they are, and as common a sight as they are in every community, definitions of just what is a weed is difficult to enunciate. However, Dr. V. I. Cheadle, head of the department of botany, University of California, however, has come up with the following comment which should satisfy the unanswered question in many minds, as to "just what is a weed?"

Here is what he says:

"Weeds are insidious thieves; they are robbers of water, of nutrients, and often of natural beauty. They are carriers of pathogenic pests, feeders of fires.

"They are legion in number, numerous in kinds, variable in habit, often poisonous in character.

"They are restless travelers that freely enter and tenaciously hold sites whose plants have been exploited or foolishly neglected by man.

"Weeds are crafty enemies, without senses, without mercy; they lurk everywhere throughout the civilized world and move about quietly, unobtrusively, in seemingly endless variety.

"Weeds are successful competitors; that is why we generally define them as 'plants out of place' or 'unwanted' plants."



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

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DONALD NETH

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CENTRAL STATES—Don E. Rogers, Manager; Henry S. French, Assistant Manager; 2272 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-6782).

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NORTHWEST—Paul A. Anderson, Advertising Sales Representative, P.O. Box 67, Minneapolis 1, Minn. (Tel. Federal 2-0575).

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Bldg., Washington, D. C. (Tel. Republic 7-8534).

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MEETING MEMOS

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 8-9—Twelfth Annual Wisconsin Insect Control Conference, Lorraine Hotel, Madison, Wis.

Jan. 8-10—Northeastern Weed Control Conference, Hotel New Yorker, New York, R. J. Aldrich, Rutgers University, New Brunswick, N.J., Secretary.

Jan. 9-10—Mississippi Insect Control Conference, State College, Miss.

Jan. 13-14—National Cotton Council of America, twentieth annual meeting, Westward Ho Hotel, Phoenix, Ariz.

Jan. 13-14—Nebraska Fertilizer Meeting, University of Nebraska, Lincoln, Neb.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 14-15—Georgia Plant Food Educational Society, Annual Meeting, University of Georgia, Athens, Ga., Fielding Reed, 710 Mortgage Guarantee Bldg., Atlanta, Ga., Secretary-Treasurer.

Jan. 14-16—Nebraska Fertilizer, Machinery and Chemical Exposition, Sponsored by the Nebraska Fertilizer Institute with the Nebraska College of Agriculture, Pershing Auditorium, Lincoln, Neb.

Jan. 20-21—Pest-O-Rama, sponsored by the Alabama Association for Control of Economic Pests, Coliseum, Montgomery, Ala., W. G. Eden, P.O. Box 626, Montgomery, Ala., Secretary-Treasurer.

Jan. 20-29—Virginia Polytechnic Institute Fertilizer Schools; at Culpeper Jan. 20, Tappahannock Jan. 21, Richmond Jan. 22, South Boston Jan. 23, Lexington Jan. 24, Marion Jan. 27 and Suffolk Jan. 29.

Jan. 21-22—Michigan Insecticide & Fungicide Conference, Kellogg Center, Michigan State University, East Lansing, Mich.

Jan. 21-22—North Carolina Pesticide School, College Union Bldg., North Carolina State College, Raleigh.

Jan. 21-22—Illinois Fertilizer Industry Conference, University of Illinois, Urbana, Ill.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Jan. 22—Minnesota Aircraft Sprayers Short Course, University of Minnesota, St. Paul campus.

Jan. 22—Oregon Fertilizer Dealers Day, Oregon State College, Corvallis, Ore.

Jan. 22-23—Northwest Agricultural Chemicals Industry conference, Hotel Benson, Portland, Ore. (In connection with N.W. Vegetable Insect Conference and Western Cooperative Spray Project.)

Jan. 23-24—Tenth Illinois Custom Operators School, University of Illinois, Urbana.

Jan. 27-31—Seventh Annual Oregon Chemical Applicators Short Course, Withycombe Hall, Oregon State College, Corvallis, Ore.

Jan. 30-31—Colorado Agricultural Chemicals Assn., Annual Meeting, Cosmopolitan Hotel, Denver.

Feb. 2-4—New York Garden Supply Show, New York Colliseum, New York City.

Feb. 4-5—Kansas Insect & Weed Control Conference, Williams Auditorium, Kansas State College, Manhattan, Kan.

Feb. 4-6—North Carolina Pest Control Operators' Short Course, College Union, Raleigh, N.C. Clyde F. Smith, Dept. of Entomology, N.C. State College, secretary.

Feb. 10-11—Southwestern Branch, Entomological Society of America,

annual meeting, Shamrock Hilton Hotel, Houston, Texas.

Feb. 12-13—Shell Chemical Corp. Nematology Workshop, Hotel Stardust, Yuma, Ariz.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

Feb. 20-21—Shell Chemical Corp. Nematology Workshop, Holiday Inn Motel, Toledo, Ohio.

Feb. 20-22—Nitrogen Conference, University of Minnesota, St. Paul. M. W. Mawhinney, Smith-Douglass Co., Albert Lea, Minn., Chairman.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

April 13-15—Sixth Annual California Fertilizer Conference, California State Polytechnic College, San Luis Obispo, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

April 22—Western Agricultural Chemicals Assn., Spring Meeting, Hotel Biltmore, Los Angeles; O. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

June 9-11—Association of Southern Feed & Fertilizer Control Officials, Heart of Atlanta Motel, Atlanta, Ga., Bruce Poundstone, University of Kentucky, Lexington, Ky., Secretary-Treasurer.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 8-10—Pacific Northwest Plant Food Assn., Ninth Annual Regional Fertilizer Conference, Pocatello, Idaho.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

Oct. 22-24—Pacific Northwest Plant Food Assn., Annual Meeting, Gearhart, Ore., Leon S. Jackson, P.O. Box 4623, Sellwood-Moreland Station, Portland, Ore., secretary.

Fulton Bag Elects Vice Presidents

NEW ORLEANS—The election of two vice presidents has been announced by Fulton Bag & Cotton Mills. They are Charles H. Burns of Atlanta, company controller, and J. Frank Greeley, general manager of multiwall bag sales, New Orleans.

Mr. Burns joined the Fulton organization in 1952. He is a past president of the Cincinnati Control of Comptrollers Institute of America, and a member of the American Institute of Management.

Mr. Greeley first entered the multiwall field in 1930 in New York. In 1948, when Fulton planned to manufacture multiwalls, Mr. Greeley joined the firm at New Orleans to help launch the new department.

Kansas Conference

MANHATTAN, KANSAS—The second annual Kansas Insect and Weed Control Conference will be held Feb. 4-5 at Umberger Hall, Williams Auditorium, Kansas State College here, according to Chris C. Burkhardt, head of the college's department of entomology.

Harry S. Smith, Veteran Entomologist, Dies at 74

SACRAMENTO—Death has taken Prof. Harry S. Smith, 74, a familiar figure to entomologists throughout the state and nation. In 1913 he was superintendent of the insectary, State Commission of Horticulture and later was chief of the Bureau of Pest Control, California State Department of Agriculture. He was a world authority on biological control.

Prof. Smith was the author of a number of books, special articles and reports. Among his scientific achievements was the introduction of parasites which successfully controlled citrophilus mealybug, biological control of black scale, formerly the most important citrus pest in California, and direction of the introduction of beetles for the control of Klamath weed.

He was the father of Sam Smith, associated for many years with the Bureau of Entomology, California Department of Agriculture and later with the U.S. Department of Agriculture. Also surviving are his widow, three daughters and another son.

G.L.F. Directors Elect Officers

ITHACA, N.Y.—The board of directors of the Cooperative Grange League Federation Exchange, Inc., meeting in Ithaca recently elected Charles N. Silcox as executive vice president and Edmund H. Fallon as general manager of G.L.F.

All other officers were reelected. They include J. C. Corwith, Water Mill, Long Island, president; C. E. Snyder, Pittstown, N.J., vice president; M. E. Campbell, Ithaca, secretary, and W. J. Fields, Ithaca, treas.

Supply Store Sold

DAYTON, WASH.—Sale of the Dayton Feed and Farm Supply store by A. J. "Andy" Reinland to Ben Pool, formerly of Cusick, Wash., was recently transacted. Mr. Reinland has operated the outlet since 1952. Mr. Pool, who has been farming in the Cusick area, will rename the business Pool's Feed Store.

CROP DAY

URBANA, ILL.—The University of Illinois department of agronomy will hold a Crop Performance Day in Urbana Jan. 22, announces W. O. Scott, extension agronomist at the College of Agriculture.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.
Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$10 per column inch. All Want Ads cash with order.

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Dr. H. T. Osborn to Retire From California Post

SACRAMENTO—Dr. H. T. Osborn, in charge of survey forces for the Bureau of Entomology, California Department of Agriculture, will retire at the end of the year and will be replaced by Louis Blanc of the bureau's taxonomy office.

Mr. Blanc will be succeeded by Paul Arnaud, a systemic entomologist, recently with the U.S. National Museum and formerly with the Plant Quarantine Section of the Port of San Diego.

Other Bureau of Entomology personnel changes include the appointment of Howard McKenzie of the taxonomic group to the University of California at Davis staff where he will continue his scale insect studies and the appointment of Ronald Hawthorne as economic entomologist.

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- Formulators of Pesticides, Herbicides and other Farm Chemicals
- Retail Dealers selling fertilizer, farm chemicals and other farm supplies; Custom Sprayers, Pest Control Operators, and Nurserymen
- Farm Advisor Group—county agents, agriculture department officials, extension and experiment station personnel, soil conservation men, bankers and consultants

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